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EMERGENCY PREPAREDNESS: REPORTS AND REFLECTIONS OF LOCAL AND COUNTY EMERGENCY MANAGERS

FINAL REPORT

FOR

FEDERAL EMERGENCY MANAGEMENT AGENCY
WASHINGTON, D.C., 20472

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Executive Summary

Emergency Preparedness: Reports and Reflections of Local and County Emergency Managers

by

Jiri Nehnevajsa

for

Federal Emergency Management Agency
Washington D.C. 20472

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March 1990

EXECUTIVE SUMMARY

This research document reports the findings of a nationwide mailed questionnaire survey of 2,345 local and county Emergency Management Officials (EMOs). It provides detailed information and preliminary analyses on the state of emergency management and preparedness capabilities.

The survey instrument, which was designed in consultation with FEMA personnel, includes questions adopted from FEMA's Hazard Identification, Capability Assessment, and Multi-Year Development Plan (HICA-MYDP), and may therefore be useful in both validation and comparison of relevant aspects of previous HICA-MYDP surveys. The current instrument addresses perceived threat and capabilities to handle natural and technological hazards, as well as attack preparedness. It also contains questions outside of those based on HICA-MYDP. In addition, the survey elicits the opinions and viewpoints of the responding EMOs in terms of their local situations. Aside from informational data, the study is intended to provide input regarding similarities and differences across the nation, as it is suggestive of the gap between local concerns and needs, and the topsided view of the Federal government.

Data are organized under topics that include emergency management program goals and objectives, major problems and approaches to solutions encountered by EMOs, planning, frequency and potential threat of specific hazards, availability of resources, and finally, threat and preparation for nuclear war. This summary will highlight some of the findings.

Respondents were asked to rate the relative importance of nine explicitly stated goals of emergency management programs. While the rating schedule produced high percentages of agreement among the EMOs on the relative importance of program

objectives, it also shows that preparation for natural and technological hazards is given a higher priority than attack preparation. However, findings indicate that EMOs perceive significant linkages between peacetime program efforts and attack preparedness.

Separate questions address most commonly cited emergency management problems and management procedures and techniques. EMOs responded to explicit listings of these items, which are adopted from HICA-MYDP. Indices computed on each listing show that an average of 5.1 problems were commonly cited by all respondents, and an average of 6.1 procedures were adopted and maintained by all. A preliminary analysis, however, shows that there is essentially no correlation between the Problem and Adoption indices. This research suggests then that patterns of adoptions of various procedures and techniques have been driven by considerations other than those of problems.

Respondents' experiences in handling emergencies were surveyed according to a list of 29 hazards based on HICA-MYDP documentation, plus an open ended probe for hazards not listed. The listing produced heterogeneous results. Natural disasters, such as floods, tornadoes, and flashfloods, were frequently reported; radiological incidents are relatively rare, while incidents involving hazardous materials represent a fairly high level of experience. On the whole, EMOs were more likely to be involved in a disaster response for those hazards which were experienced more than once.

The same listing was applied to respondents' perceptions of threat and significant threat posed by these hazards. While previously experienced hazards are related to those hazards perceived as threatening, there are higher reported percentages of threat and significant threat overall, with significance defined by the HICA-MYDP approach, than there

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are reported experienced with these hazards. Perceptions of threat also produced a distinction between natural and technological hazards. Findings show that respondents perceive technological hazards, or man-made, such as transportation of hazardous materials and power failures, as threatening more often than natural disasters.

In the area of resources, the survey suggests that there are, nationwide, problems in critical resource management. In response to a list of eleven critical resources, EMOs report a relative infrequency of written agreements to procure resources, in comparison to less formal agreements of having identified potential sources. For example, manpower is the only critical resource for which written agreements exist in more than 40 percent of the responding jurisdictions. EMOs also responded to this list in terms of identifying potential shortfalls. The study draws comparisons between reported shortfalls and additional indicators of resource availability, for example, the development of priority allocation and rationing prospects. While findings, rank order correlations, indicate that reported shortfalls and rationing are positively related, negative relationships exist between shortfalls and those resources identified in both written inventories and prioritization. This suggests that EMOs are managing resources in ways that overlook serious difficulties in a disaster environment. More detailed analyses of these interrelationships is called for.

The study considers separately jurisdictional capabilities in the areas of emergency operating centers (EOCs), shelters, personnel, tests and exercises, warning procedures, evacuation, and hazardous material and radiological risks. EOCs were surveyed according to a listing of 14 characteristics adopted from HICA-MYDP instruments. Findings show that about half, 50.2 percent, of the jurisdictions have an adequate EOC operational on a 24-hour basis. Higher percentages of respondents report their EOCs are capable of

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operation within 15 minutes, and capable of receiving warnings from state and Federal authorities on a 24 hour basis, 75.1 and 77.3 percent respectively. Nevertheless, taking into account all characteristics, the researchers conclude that while EOCs are commonplace, they are rather simple, rudimentary in their attributes so that enhancement and improvement seem desirable.

A majority of responding jurisdictions possess shelter survey information, but one in four do not. A majority of respondents maintain inventories of emergency housing, considered as a critical resource, and furthermore, a slight majority of EMOs claim that potential sources of additional housing have been identified in anticipation of shortfalls.

The survey also took into account the fact that Emergency Operating Centers may have to serve as shelters for direction and control personnel, particularly fallout shelters during an attack environment. Findings reveal that nearly half of the responding EMOs do not know the Protection Factor, fallout sheltering potential, of their facilities. Of the PF factors that are known, very few EMOs, 3.8 percent, characterize their facilities with a PF of 1,000 or higher; about one-third report a PF factor of 40 or more. There is reason to underscore the observation that certain types of information and emergency activities appear irrelevant to EMOs under normalcy conditions, as there is much that needs to be known and done about situations and hazards much more salient than the remote possibility of a nuclear confrontation.

In the area of personnel, the main finding is that volunteers represent an important, even crucial resource, and are perceived as such by most of the responding EMOs. In many jurisdictions a paid full time emergency manager does not exist and these tasks are being handled by someone else, the fire or police chief, or unpaid volunteer professional.

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Comparisons and interpretations of reported levels of paid personnel versus volunteer personnel are not indicated at this level of analysis, that is, not until the relative size of jurisdictions is taken into account. However, some 76.2 percent of the EMOs report levels of four or fewer paid fulltime personnel, with 35.8 percent of these actually reporting no fulltime personnel in their jurisdictions. (The question explicitly asked to exclude other emergency service personnel such as fire, police, and 911 emergency dispatch personnel.) As to volunteers, over half the EMOs report that five or more volunteers are on staff and are used in a variety of activities. Most EMOs perceive volunteers to be a "great deal of help," and most would agree that they are more of a help than a hindrance.

In regard to management of volunteer forces, most jurisdictions maintain call-up lists for mobilization of volunteers. In addition, a majority have plans to use private agencies, such as the Red Cross, to help in management of volunteers, and others, 39 percent of EMOs, report a volunteer coordinator on staff.

Speaking more generally, EMOs were questioned about the extent of their interaction with other private and governmental agencies. With respect to planning, exercises and critiques, findings indicate frequent interaction with governmental agencies such as fire and police departments, medical services, public works departments, as well as City Manager and Mayors' offices. The survey item concerning private agencies asked whether specific organizations have a formally defined role in emergency mangagement. The most commonoly cited private agency was the American Red Cross. Other agencies cited by more than half the respondents are Citizen Band Radio Amateurs and RACES organizations. The EMOs thus are not isolated from the organizations in their jurisdictions, and through them they are also linked to the general public in obviously important ways.

Turning now to preparation and planning areas of emergency management, the study contains information regarding the extent of testing or implementation of Emergency Operations Plans during the preceding year, as well as performance of nuclear attack and other hazard exercises during the preceding three years. Findings show that two-thirds of the EMOs report implementation of their plans, while tests and exercises for emergencies such as hazardous materials incidents, mass casualty accidents, natural and technological hazards greatly outnumber nuclear attack exercises.

In addition, most jurisdictions, 83.3 percent, test their communications links regularly and many, just over 39 percent, claim a protected communications link with an Emergency Broadcast System station. Responses to testing of warning equipment were less affirmative than communications links, and likewise, there are also fewer positive reports of possession of emergency power generators.

Warning in the event of an actual emergency is conceptualized on two fronts: warning the emergency management system itself (mobilization of responders), and warning the general public. The data show that mobilizing emergency responders is a priority, as opposed to alerting relevant government officials. Timewise, most EMOs claim alerting responders would take less than 15 minutes, and alerting government officials would not take longer than 30 minutes. The instrument contained one question on the issue of "role conflict," that is, in an actual emergency would responders place care of their families and neighbors above their prescribed emergency duties. There is very little evidence to suggest that this would be the case. In fact some 40 percent of EMOs claim that procedures exist "to find out rapidly the condition of the families and property of emergency response personnel."

The instrument probes public warning capabilities in terms of percentage estimates - 85 percent or more, 70 to 84 percent or less than 70 percent - of the public who can be warned during daytime hours and during nighttime hours. EMOs report variable capabilities of public warning during daytime hours. These responses are spread somewhat evenly across all three percentage categories. During nighttime hours there is more agreement. Just over 66 percent of EMOs report that less than 70 percent of the public could be alerted during nighttime hours.

An open-ended question on the instrument asked who makes the decision to warn the public. Numerous responses were received and categorized as follows: 42.4 percent cited the emergency management staff, 23.5 percent cited the chief executive of the city/township, and others cited police chief, county official, and fire chief. Small percentages cited still others, such as "dispatcher on duty," and various decision making groups, for example, "city council" and "local officials," which if taken at face value, are questionable sources of authority in event of an actual emergency.

Evacuation capabilities are assessed according to frequency of exercises, informing the public, security plans, and special needs publics. The data suggest that regular evacuation exercises are not being held. More than half the EMOs report that exercises had not been held in the past three years. Plans to provide information to the public on a timely basis, and plans to provide for the security of an evacuated area were reported by most EMOs. In many jurisdictions there also exist plans to provide for the safety of such groups as children, hospital and nursing home patients, and prisoners. However, the majority of respondents reported that they have not developed procedures for identifying and helping households where there are persons with major handicaps.

Capabilities to deal with both radiological hazards and toxic materials are widespread. However, there is a minority of jurisdictions in which EMOs consider these capabilities to be less than adequate. While most jurisdictions claim access to technical information, equipment, and clothing to deal with hazardous and toxic materials, just over half, 58.1 percent, of EMOs report emergency services personnel trained in hazardous and toxic materials, and only 51.6 percent report capabilities to provide treatment to individuals exposed to hazardous materials. In regard to radiological materials, higher percentages of EMOs, 73.4 percent, claim capabilities to provide treatment, and two or more trained radiological officers exist in more than half of the jurisdictions. While close to 25 percent of the EMOs claim five or more such officers, more than 30 percent report that they do not consider the numbers of radiological officers to be sufficient for potential needs. Respondents were also asked to compare their radiological capabilities in peacetime and wartime on basis of several indicators - operating and reporting procedures, staff, and equipment. Overall, consistent majorities of EMOs report inadequate capabilities for wartime needs, compared to peacetime needs.

Examined as to perceptions on the likelihood of nuclear attack, EMOs view nuclear war as possible, but an unlikely event. Most of the EMOs believe that a nuclear confrontation would not start by an "attack out of the blue," but given a choice between surprise attack and nuclear conflict as the climax in worsening international relations, almost half the EMOs report that a nuclear conflict could start either way. This suggests that EMOs would not tend to be strong supporters of programs that are geared to only one strategy in preparation for nuclear war. For example, an evacuation program only makes sense in the event that there would be warning time. The responses of the EMOs

thus provide a clue to their reluctance to commit to evacuation programs that do not provide some sort of in-place protection as well. This observation is underscored by EMOs responses to estimated warning times in the event of nuclear war. The survey finds that most EMOs think of warning time in terms of a few hours notice, not days or weeks.

The survey also finds that most EMOs consider their jurisdictions to be likely target areas. When probed as to the reasons for these responses, they most often cited the presence of military facilities, industry, proximity to metropolitan areas and transportation centers. Estimation of target areas is considered here independently of NAPD estimates of target areas.

The basic pattern of the data on in-place protection capabilities of the jurisdictions, as assessed by the EMOs, reveals less than adequate levels. While over half the EMOs report adequate personnel to manage health care and lodging facilities in the event of a nuclear attack, only about one-third report adequate personnel to manage in-place protective facilities, that is, fallout shelters. Also, only about one-third of EMOs claim that fallout shelter capabilities have been included in planning programs, but a substantial majority of EMOs favor the development of a "network of fallout protected control centers." The reported capabilities do not appear to be related to negative and cynical attitudes towards passive defense measures, but rather they may be due to a lack of Congressionally appropriated funds for civil defense programs. Further research and analysis is suggested to link the provisions of adequate in-place protection to those areas most likely to be targeted in the event of nuclear war.

The opinions and views of the EMOs on directed evacuation in the event of a nuclear war indicate that most favor evacuation planning, despite the fact that they are not

convinced there would be sufficient warning time in the event of a nuclear attack. These data again underscore the finding that a protection strategy should be mixed - in-place protection and evacuation plans - in order to remain credible to emergency managers. The EMOs do not expect dramatic outflows of people from their areas in the way of spontaneous evacuation were the media and the Federal government to start reporting impending crisis. But these estimates increase with the perceived higher risk of a jurisdiciton. Local emergency managers are divided when it comes to raising the question as to whether or not they would encourage spontaneous evacuation and what the national policy on this should be. A modest plurality, without any sharp differences regarding perceived target danger of their jurisdictions, favor a neutral position, that is, to let spontaneous evacuation take its own course and for the Federal government to neither endorse nor dampen the process. These views, however, are again contradicted by over half of the EMOs who agree that there may be extreme circumstances in which a Presidential proclamation to urge evacuation would be warranted.

Final Report

**Emergency Preparedness: Reports and Reflections
of Local and County Emergency Managers**

by

Jiri Nehnevajsa

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This research document reports the findings of a questionnaire survey mailed to a nation-wide sample of local and county Emergency Management Officials (EMOs). The study is intended to provide input regarding similarities and differences among emergency management jurisdictions across the nation. Its broad focus provides detailed information on the current state of emergency and disaster procedures and preparedness programs in the face of natural, technological, and nuclear emergencies. Perceived levels of capabilities and resources, both capital and financial are also explored. Further, results suggest a gap between local concerns and needs, and the topsided view of the Federal government. — Federal Emergency Management

The rather lengthy instrument, designed in consultation with FEMA personnel, includes questions adopted from FEMA's Hazard Identification, Capability Assessment, and Multi-Year Development Plan (HICA-MYDP). As such, findings may be useful in both validation and comparison of relevant aspects of previous HICA-MYDP surveys, though this deeper analysis is not presented here. The current findings are presented in descriptive statistical

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analyses, and the instrument uses closed and open-ended questions, including rating scales.

Findings assess respondents' experiences in emergency response, emergency management problems, adoption and maintenance of procedures, techniques, and critical resources. These are based on explicit listings, and are drawn from HICA-MYDP documentation. Results suggest that patterns of adoptions of various procedures and techniques are driven by considerations other than those of problems. There is a relative infrequency of written agreements to procure critical resources, compared to less formal agreements with potential suppliers. And rank order correlations show negative relationships between reported shortfalls in resources and resource availability. A more detailed analysis of these interrelationships in resource management is called for.

This study provides summary analysis of reported jurisdictional capabilities including preparation and planning areas of emergency management, shelters and evacuation, warning procedures, and capabilities to deal with hazardous and radiological materials. Additional findings indicate that there is a tendency for those EMOs who claim that their jurisdictions are better prepared than comparable others to have experienced more disasters and to feel more threatened.

Overall, the majority of EMOs report inadequate capabilities for wartime needs, compared to peacetime needs. And most EMOs view attack preparedness as a worthwhile endeavor. Other findings in the area of nuclear concerns include the following: EMOs would support a combination of evacuation and in-place protection programs. EMOs assess chances of surviving a nuclear attack as "medium." Overall, the higher the perceived target danger of a jurisdiction, the lower the survivability estimate.

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I. INTRODUCTION

The findings presented here are based on responses of 2345 local and county level Emergency Management Officials (EMOs hereafter) to a mail-out questionnaire. The instrument was designed, in consultation with FEDERAL EMERGENCY MANAGEMENT AGENCY personnel (FEMA hereafter), by the researchers, mailed to a nationwide sample of EMOs by FEMA and returned, upon completion, directly to the University Center for Social and Urban Research of the University of Pittsburgh for processing and analysis.

A copy of the questionnaire is provided as Appendix A while Appendix B contains information about the national sample of EMOs to whom, through their State Directors, the questionnaires were specifically sent.

The questionnaire, admittedly a rather lengthy one, contains a great many questions of fact regarding local/county emergency preparedness and response capabilities and it also sought to ascertain some important opinions and viewpoints of the responding EMOs. It focuses on both natural and technological hazards, but it does not neglect, indeed it also emphasizes, issues associated with attack preparedness programs. Facts in this context have to do with claims of the respondents and they rather self-evidently differ from questions pertaining to perceptions, opinions, viewpoints in that they are altogether verifiable by independent observation or other forms of appropriate ascertainment. In turn, perceptions and viewpoints represent expressions of sentiment or attitude that characterizes the particular respondent and thus no independent assessment can shed further light on such responses and their patterns. But the importance and relevance of such subjective judgments, their centrality in the ways in which people construct reality, cannot be really overemphasized. While hardly anyone

would claim that attitudes and opinions translate themselves into specific actions and forms of behavior in some simplistic manner, no one should question the fact that the subjective evaluations in the form of perceptions, opinions, sentiments, viewpoints and attitudes are among the key determinants of actions and thus directly influence, and significantly so, what one does, when and how and why.

The main objectives of the research are straightforward enough: to help to determine the state of emergency preparedness in face of the host of potential hazards that may, and do, threaten and impact our communities; and to establish how the central players, the EMOs, look at salient issues and problems associated with their difficult, and certainly unenviable, assignments. This report provides only basic findings of the inquiry and it lacks, therefore, the kind of analytic insights which can be obtained by more sophisticated analytic approaches, a matter to which subsequent papers will be devoted. There are then several major uses to which these kinds of findings can, and should, be put:

1. For FEMA, the data provide an opportunity to validate some key aspects of FEMA's own Hazard Identification, Capability Assessment, and Multi Year Development Plan information system (HICA-MYDP hereafter) which, in turn, was one of the reasons why this study was undertaken. Thus many questions in the instrument were simply adopted from the prior, 1985, HICA-MYDP instruments. This dimension of validation has, perhaps, two somewhat different aspects though without data from the FEMA studies of the antecedent years, this particular report cannot address them directly as yet. For one, it has to do with the degree to which prior reports map accurately onto the reports (on identical items) quired in this inquiry. And second, it pertains to the possibility of understanding and interpreting changes in capabilities (or, for that matter, shortfalls) that may have occurred at the local/county levels since the previous HICA-MYDP responses.

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2. For FEMA, the study also provides an opportunity to consider both
   similarities and differences across the nation, and thus be sensitive to
   their implications, especially with regard to the good number of questions
   in the instrument which were not part of the HICA-MYDP data collection
   system, and which, therefore, yield new insights into the problems and
   thinking of EMOs at the local/county levels, in the actual trenches where
   hazards have to be coped with. There has existed an important
   communications gap which generally translates itself into a credibility gap
   between the local concerns and needs and the Federal Government's
   topside view, seemed unresponsive to the special characteristics of the
   heterogenous regions and communities of the nation. This is in no way
   a problem limited somehow to FEMA and the emergency management
   domain but it does apply to by far most Federal agencies and programs.
   Whether these perspectives from out there across the country are
   justified or not justified by some objective standard may not be easy to
   determine: but the perception of Washington's misunderstanding of more
   local concerns and problems exists and is very intense and it exists in the
   emergency management community as well. The findings of the
   research, to the extent to which they can sensitize FEMA to the
   heterogeneity as well as clustering of more local (and as far as local
   conditions are concerned, generally more knowledgeable) sense of
   reality, could serve as an important vehicle toward decreasing the
   distance between Washington and this or that municipality or county, a
   feeling which is so strongly held and which has been so widespread.

3. The findings, too, may serve as a useful input into FEMA's budget
   justification and development process in reflecting the extant and varied
   capabilities, problems and shortfalls across the nation.

4. For local and county EMOs, the results may well be used as a kind of
   national benchmark against which the capabilities, preparedness levels
   and programs as well as opinions and attitudes can be surmised.

5. Along these lines, such findings shared among the community of
   EMOs can provide worthwhile inputs in the process of explaining local
   and county needs, capabilities and problems to elected local and county
   officials in light of comparisons with other local and county programs
   around the country.

6. The data may be, in turn, of value to local and county government
   officials in their consideration of the emergency management system's
   needs as such and in comparison with the national patterns of
   preparedness, problems and attitudes.

7. Indeed, the findings could prove a significant asset in better informing and educating the general public about the difficult tasks of the emergency management organizations and personnel and may lead to a better public and media understanding of both capabilities and shortfalls, thus to enhance public and media awareness.

8. Finally, it goes without saying that the results could prove of some value as an input for the United States Congress as well as the legislatures of the respective States in their consideration of emergency management programs, in their decisions regarding appropriations for emergency management and the allocation of admittedly very scarce financial resources for most relevant and promising programs and efforts.

II. A BRIEF PROFILE OF THE EMOs

The questionnaires, having been mailed by FEMA and to a sampling of nationwide EMOs selected by FEMA, indicate that some 89 different position identifications were used in the addresses to those who, 2345 of them, eventually responded by sending their completed questionnaires to the University of Pittsburgh researchers. Table 1 shows how the EMOs themselves identified their position(s).

Table 1
POSITIONS OF THE RESPONDING EMOs

	Percent	
	Position 1	Position 2
CD-EM Director	56.1	0.1
Fire chief	18.2	5.3
Police chief	5.6	1.3
EMS director	2.9	1.9
Public health director	1.1	22.9
Public works director	0.1	0.2
Water-sanitation director	0.1	0.1
Other	15.4	2.6
Response missing	0.6	65.6

The results show that some two thirds of the respondents (65.6 percent) identified only one position they hold (and, of course, a few, 0.6 percent did not refer to their primary position either), but many EMOs appear to have at least two types of responsibilities and assignments. In the taxonomy into which the data were coded (though the researchers also retained, in the data file, the specific position identification in terms of the mailing list), some 15.4 percent of the respondents fell into the "other" (positions otherwise

identified) category when reporting their primary job title. This, of course, included many respondents in the roster of some 89 descriptors that were used in the addresses by FEMA - deputy coordinators, directors/deputy directors of ambulance services, city managers, a sprinkling of mayors and the like. For the purposes of _this_ basic presentation of findings, the respondents are not differentiated by their positions though the reader must understand that the category of "other" is quite a heterogeneous one.

By far most, 88.1 percent, of these EMOs are salaried, though 11.0 percent are not. As is shown in _Table 2_ the county represents the appropriate jurisdictional area for 40.0 percent of them, a city (35.9 percent) or borough or township (10.6 percent) are other self-defined jurisdictional domains. A few respondents, some 5.0 percent of them, had responsibilities across several counties and they appear, in the tabulation, in the "other" designation.

Table 2
JURISDICTIONAL AREAS OF THE EMOs

	Percent
County	40.0
City	35.9
Township/borough	10.6
City and county	7.9
Other	5.0
Jurisdiction not identified	0.5

The _median_ years of service in the emergency management system comes to some 5 1/2 years - but the _modal_ category, the most frequent response, shows service length in excess of 10 years (26.2 percent). The emergency management community

also "renews" itself, there being some 23.1 percent of the respondents with less than two years of experience on the job - 10.1 percent actually having entered the EMO ranks in the prior 12 months only.

As the data of Table 3 show, the bulk of the EMOs represents people in the 35-50 years of age group (45.0 percent) and those who are 50 to 64 years old (34.6 percent). The oldest EMO was born in 1897 and this would make him just about 92 years old in 1989. In turn, the youngest respondent was born in 1966. The median age is about 49 based on responses of those who did identify their birth year: 4.6 percent preferred not to indicate their age.

Table 3
AGE DISTRIBUTION OF THE EMOs

	Percent
Less than 35	8.4
35 but less than 50	45.0
50 but less than 65	34.6
65 or older	7.3
Age not indicated	4.6

While 1.1 percent of the EMOs did not reveal their "highest educational attainment" (as the item was phrased), the study shows that the emergency managers have a great deal of formal education. Indeed, 76.3 percent of them have had at least some college education and 42.6 percent actually completed college or studied at the graduate level as well.

Some 41.1 percent of these EMOs saw service in the nation's Armed Forces. In turn, 22.4 percent of the sample, and 38.7 percent of those who served in the Armed

Forces also reported combat experience. The data of Table 4 provide a crude idea as to the times in the country's recent history when the EMOs were serving in the Armed Forces. Of course, in its (current) form, the table masks service experiences across the various periods, such as in WW II, thereafter, and again in the Korean conflict and so on. The data, of course, permit a detailed analysis along such lines but for the purposes of this overview report this level of detail is not needed since no comparisons will be made, in this paper, between those with military experience and those without it or those with combat experience and others.

Table 4
ARMED FORCES EXPERIENCE OF THE EMOs

	Percent
World War II	12.3
Between WW II and Korea	4.7
Korean war	14.2
Between Korean and Vietnam wars	18.8
Vietnam war	24.7
Post-Vietnam period	6.7

Data on possible service in the National Guard or in the Reserves were, perhaps unfortunately, not sought. What emerges then is a portrait of the EMO as a rather very well educated, mature adult with considerable military, and even combat, experience, who has been, on balance, involved in emergency management efforts for about half a decade and, quite often, has been dealing with thankless tasks associated with disaster prepare-dness, prevention and mitigation for more than a decade.

III. EMERGENCY MANAGEMENT GOALS

The EMOs were asked to rate the relative importance of nine objectives of emergency management programs. The rating scale ran from 0 ("not important at all") to 5 ("extremely important"). It should be clear that the respondents reacted to the statements of objectives as these were stated and as they, themselves, interpreted them and imbued them with more specific meanings. The study, therefore, does not show how the EMOs themselves might have verbalized the key cluster of emergency management goals had they been given the opportunity.

It is unfortunate that in mail-out surveys such an open-ended probe which would have achieved this end is generally not advisable because many respondents tend to look through the instrument before they begin completing it, and any subsequent questions pertaining to the domain of an open-ended probe are likely to affect the response anyway.

Table 5 sums up the results in the form of an importance index. The index is constructed by a simple linear conversion of the rating scale (0 to 5) onto a scale with limits of 0 and 100. This was done by assigning the respective values of 0, 20, 40, 60, 80 and 100 to the 0 to 5 ratings. Thus an index value of zero (0) would be obtained if all respondents had considered a given goal as being "not important at all," and a value of 100 would mean that all agreed that the goal was "extremely important."

Table 5

IMPORTANCE INDICES OF EM GOALS

	Importance Index
Providing information so people can help themselves respond to emergencies	92.4
Providing protection in case of natural disasters	92.0
Assistance to communities hit by disasters	91.7
Warning the public of impending danger	91.4
Protection in case of technological hazards	90.9
Evaluating community disaster plans	87.6
Protection in case of nuclear war	64.0
Protection in case of conventional war	63.5
Contributing to the prevention of nuclear war	57.8

The data in the table show that six of the stated goals were actually considered to be extremely important by the EMOs. Less important, though important enough, appeared to be the concerns over nuclear or conventional war preparedness programs, and the possible deterrent implications of attack preparedness were, indeed, seen as the least crucial objective of emergency management.

Such basic results cannot come as a surprise. Natural and technological hazards are faced by the nation's communities much more frequently and have, therefore, also higher subjective probabilities of reoccurrence than would, at this time, be the likelihood of a nuclear conflict or of a conventional war in which the people of the United States

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would be in need of protection. The fact that a nuclear confrontation remains possible, highly improbable though it seems, and its devastating consequences are just about unimaginable so that it entails an enormous disutility (when the likelihood is multiplied by the value, in this instance, the incredibly high negative value) does not alter the greater saliency and relevance of peacetime hazards to EMOs around the country.

In any event, the EMOs perceive a robust interaction between peacetime emergency management capabilities and attack preparedness measures. Indeed, 80.3 percent of them, as is shown in Table 6 believe that programs to deal with peacetime hazards would "probably" or "definitely" help in dealing with a nuclear attack as well, and 75.5 percent see the reverse to hold: programs of attack preparedness would "probably" or "definitely" help in handling peacetime disasters.

Table 6
INTERACTION BETWEEN PEACETIME AND ATTACK PREPAREDNESS PROGRAMS

	Peacetime to wartime	Attack to peacetime
Would definitely help	44.6	30.9
Would probably help	35.7	44.6
Unsure	8.0	8.1
Would probably not help	8.1	12.7
Would definitely not help	2.8	3.1

In no way do the data suggest, or any other data in the inquiry, that the EMOs would simply see a potential nuclear conflict as "just another," if perhaps bigger, disaster. Rather, the results indicate an understanding that many emergency management functions have direct applicability to catastrophic events of whatever kind, and that the

development of capabilities and preparedness programs has an important payoff regardless of the specific character of the hazard. This is, even within the constraints of the data generated in this study, certainly so with respect to the need to be able to inform people how they might best protect themselves, to be able to warn the public of an impending danger and to develop programs to help people in face of a disaster to minimize loss of life, the number and severity of injuries, hazards to health, destruction and damage to property, and degradation of the environment.

In all then,

1. All the goals identified explicitly in the questionnaire were considered as important objectives of emergency management.

2. Objectives having to do with peacetime hazards were seen generally as more important than goals having to do with attack preparedness efforts, whether in relation to nuclear or conventional warfare, and they appeared more important than any possible contribution attack preparedness against nuclear insult might make to make war less likely or, in fact, to preventing it from ever happening.

3. But the EMOs perceive highly significant linkages between peacetime and attack preparedness and while they place, not surprisingly given their primary local or county responsibilities, more emphasis on peacetime hazard management programs, they clearly consider peacetime and attack preparedness efforts as being mutually supportive of each other and in no way at odds with one another.

IV. MAJOR PROBLEMS, SOME APPROACHES TO SOLUTIONS

In Question 35, the EMOs were asked to identify some of the generic problems they may have experienced in the course of an emergency. Fifteen of the most chronic difficulties were explicitly listed by the researchers. The responses range from a low of 14.7 percent (lack of emergency housing) to the high of 55.0 percent (lack of equipment). In Table 7, the basic data are provided across this spectrum of problems.

Table 7

MAJOR EMERGENCY MANAGEMENT PROBLEMS

	Percent
Lack of equipment	55.0
Lack of personnel (numbers,skills)	49.7
Public utilities knocked out	43.0
Warning system failures,limitations	42.3
Public calls jammed communication links	41.4
Lack of emergency finances	36.3
Problems with the media	34.1
Lack of critical information	33.7
Identifying who is in charge	33.2
Unavailability of communications links	33.0
Public failure to respond to warning	30.0
Coordination breakdown	28.3
Problems with volunteers	26.5
Lack of shelters	17.7
Lack of temporary housing	14.7

If media accounts regarding emergency operations under disaster conditions are taken seriously, the conclusion seems inescapable that by far most disasters have been handled well, if not actually very well. That the knowledgeables within the emergency

management community identify, with quite significant percentages, major problems connected with their attempts at coping with emergencies, suggests, of course, that in the absence of such problems their efforts would be further facilitated and enhanced.

No analysis here is attempted to show in full extent how the different problems interact with each other. Nonetheless, it is quite useful to consider the basis pattern of problem identification, that is, the numbers of problems the respondents cited, and to look at some of the ways in which problem identifications interact. A problem index was generated with a range of values from 0 to 15. The index would have a value of 0 for those EMOs who mentioned none of the problems, and it would have a value of 15 had they mentioned all of them. Thus the measure is a simple sum of positive responses (yes, I did experience a particular problem) across the roster. No weights are, or can be, applied to the respective problem though it must be realized that the problem index implicitly assigns the same weight to each one of them whereas in a real sense they certainly do not all present the same difficulties in the emergency management operations. Table 8 contains the distribution of responses for the problem index.

Thus only a few of the EMOs, 4.5 percent, claimed to have experienced none of the problems and relatively few as well, some 10 percent of them, identified 10 or more of the problems. On the average, 5.1 problems were cited by the respondents, certainly enough to be quite worrisome. A comparison of those who experienced none or few of the problems and those who reported many of them would be clearly worthwhile but it lies beyond the scope of this more basic paper.

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Table 8
PROBLEM INDEX DATA

Problem index	Percent
15	1.1
14	0.7
13	0.9
12	1.7
11	2.2
10	3.4
9	4.6
8	6.4
7	7.7
6	10.7
5	13.7
4	13.9
3	13.0
2	9.7
1	6.4
0	4.5

When but one problem was cited (Problem index score = 1), more often than others, it referred to public utility outages (14.0 percent of the 6.4 percent with this score), to equipment shortages (12.7 percent), or to lack of personnel (12.0 percent). With an index score of 2 (two problems having been cited), lack of equipment and of personnel tend to be the most likely references (31.7 and 28.2 percent respectively), as do utility outages (19.8 percent) and problems associated with "jammed communications lines" (19.8 percent as well). The same problems form the central pattern for all higher index scores: that is, these are the issues most often mentioned whether or not but a few or many problems are identified by the EMOs. Thus with the score of 5 (five problems identifie ',

personnel and equipment shortages, utility outages, jammed communication lines tend to be most often referred to and, in this pattern, so do problems driven by a real or perceived lack of finances and warning system failures or malfunctions.

As the respondents identify many problems (the index scores become quite high), the least likely references have to do with lack of sheltering facilities, lack of temporary housing, and the public's response to warnings. Thus, for example, a majority of the EMOs mention lack of shelters as a problem only when the index reaches of value of 14 (of possible maximum of 15), thus indicating that this problem tends to be referred to only after 13 of the other problems will have been cited. And lack of temporary housing, in the way of yet another example, exceeds a majority response only after 11 other problems would be typically identified. A factor analytic routine (with varimax rotation) yields four major factors into which the problem identification items cluster.

Factor I may well be seen as an Organizational Problem Factor. The items with highest loadings (above .4) include:

* Identifying who is in charge (loading of .794)

* Problems in activities/operations coordination (.784)

* Unavailability of communications links (.500)

The second factor might be viewed as an Impact Problem Factor:

* Jammed communications lines (.678)

* Utility outages (.518)

* Public response to warning (.590)

* Problems with the media (.550)

* Lack of critical information (.407)

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Perhaps a more fortuitous term than Impact Problem Factor is applicable to this Factor II. But there seems to be strong suggestion here that these are the kinds of problems which tend to be especially vexing in the immediate aftermath of a disaster rather than presenting major difficulties in the warning phase.

Factor III has to do, in a rather generic sense, with Operations Problems:

* Lack of equipment (.797)

* Lack of personnel (.690)

* Warning system malfunctions and failures (.420)

* Lack of finances (.417)

The last factor, Factor IV, is driven by Public Protection Problems:

* Lack of temporary housing (.803)

* Lack of public shelters (.792)

* Lack of finances (.471)

A further look at the date of Table 7 will immediately indicate that Factors II and III, contain the most frequently mentioned problems, while items with high correlations with (loadings on) Factors I and IV are among problems cited by relatively fewer respondents, and the data on the patterns of the Problem Index lead to the same conclusion.

Thirteen questions (Questions 68 through 80) addressed some basic procedures and approaches which the EMOs ma .ave adopted. Many of these provide partial possible solutions to .g ~ the problems that were identified as plaguing eergency management activities. The ems, in turn, have their origin in the HICA-MYDP question-naires.The respondents were asked to say whether they adopted the particular procedures and techniques and, having adopted them, maintained them, whether they,

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perhaps, adopted but not maintained them, or not adopted them at all. Since the questions may not have been applicable for all respondents in that they did not relate to their kind of work or scope of responsibilities, a provision was made for such respondents to so state.

The data of Table 9 reveal sharp differences in the adoption and maintenance of some of these practices. In fact, 76.3 percent of the EMOs adopted and maintained procedures to coordinate with hospitals and ambulances the reception and distribution of casualties while only 18.4 percent "trained citizen members of Block Watch or other neighborhood-based groups for emergency self-help." The differences in the adoption rates are most probably driven both by perceived needs and opportunities, but the study contains no data on the basis of which it would be possible to determine the reasons behind the variable adoption rates.

The data, across each row, do not add up to 100 percent. The complement, the information explicitly not shown, has to do with respondents who reported that the particular technique or procedure was not applicable to their work.

Table 9

ADOPTION OF SOME PREPAREDNESS TECHNIQUES

	Adopted Maintain	Adopted Not Maint.	Not adopted
Procedures with hospital and ambulance managers for coordinating reception of casualties in a major emergency	76.3	9.7	9.2
A system designating staff who will provide needed command post services in a multi-agency response	73.7	11.1	12.1
Location and staff responsible for a "media information center"	67.8	14.7	14.3
Designated voluntary groups or agency responsible for housing evacuees	66.4	10.3	16.0
Agreements with RACES or other radio amateurs	58.4	14.6	21.5
Developed methods and staff trained to make evacuation warnings (other than sirens)	54.1	15.6	25.0
Designated vehicles and drivers to carry transit-dependent or mobility impaired persons	51.0	14.7	28.1
Open purchase orders or other ways to make and document needed emergency expenditures	46.4	10.8	35.7

Communication links to a major radio/TV station	43.7	7.7	43.7
Designated, trained staff to organize untrained volunteers	28.7	18.2	47.5
Established equipment rate and use agreements with contractors/industry	25.3	14.3	49.0
Install rotary phone connections and set up staff procedures to operate a citizen emergency phone bank (other than 911)	25.0	6.6	60.0
Trained citizen members of Block Watch or other neighborhood based group for emergency self-help	18.4	10.9	58.7

Somewhat paralleling the Problem index, an Adoption index was generated with a possible range of values between 0 and 13. The index would be 0 for those EMOs who did not adopt and maintain any of the techniques about which they were explicitly asked, and the index value would, of course, be 13 for those who adopted and maintained all the procedures and techniques about which they were asked. On the average, the EMOs reported having adopted and maintained 6 practices,1 reported 13 practices, though 5.2 percent of them did not adopt and maintain any one of them. In turn, 18.5 percent of the EMOs adopted and maintained at least 10 of the techniques.

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Table 10

ADOPTION INDEX

Adoption Index	Percent
13	1.0
12	3.5
11	6.1
10	8.1
9	10.8
8	11.0
7	11.3
6	10.9
5	7.4
4	7.1
3	6.4
2	6.1
1	5.1
0	5.2

Further analysis, also not reported in this more basic document, will shed light on the similarities and differences between those who adopted none or few of the techniques and those who adopted and maintained many of them as well as on the pattern of having adopted some of the approaches though not others, and for having not maintained some of the techniques even though they had been previcusly adopted.

When only one of the techniques is adopted and maintained (Index score = 1, characterizing 5.1 percent of the respondents), it te ds to be predominantly some appropriate arrangement and linkage with hospital and ambulance services (41.0 percent c 'h. s with the Adoption Index score = 1). With two adoptions, this techniques is most often coupled with the establishment of some "media information center" or with the development of agreements with RACES, CB or other radio amateurs. And an Index

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score of 3 (three techniques adopted and maintained) represents most generally the prior items (mentioned above with "lower" scores) along with the practice of designating some voluntary group to be responsible for citizen housing and designating staff to provide needed command services in multi-agency response operations.

Approaches least likely to have been adopted and maintained - those which tend to be adopted only _after_ many other techniques include:

* Establishing rotary phone connections and staff procedures to operate a citizen emergency information phone bank - a practice which is adopted by a _majority_ of EMOs only after 9 of the other 13 techniques are adopted.

* Training of citizen groups (Block Watch or other neighborhood-based groups) in emergency self-help: a majority adopts this approach only _after_ 10 of the techniques will have been adopted.

* Designating a staff member to be responsible for organizing untrained volunteers - also adopted by a majority only _given_ the adoption of 9 of the other techniques.

A more detailed study of _Table 9_ does suggest that some of the practices and techniques have a bearing on the problems which the EMOs identified. For example, agreements with RACES or radio amateurs, protected phone line links or dedicated channels to a major radio or TV station facilitates the dissemination of information, including warning information, to the general public and thereby decreases the problem experienced with warning systems failure as well as, perhaps, enhancing appropriate public response to an emergency. The establishment of a public emergency phone data bank may well decrease the well documented severity of problems associated with the saturation of communications links due to calls from anxious citizenry. The setting up of a "media information center" is one of the more effective ways to minimize, if not avoid, problems with the media. The establishment of procedures and the designation of staff

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members to provide command post services in a multi-agency disaster response can go, at least, some way toward alleviating problems having to do with coordination break-downs and with determining who "is in charge." Designating and training some staff member(s) to help organize efforts of citizen volunteers who show up with the intent to help can certainly decrease problems with volunteers which the EMOs reported

Thus one might reasonably expect that problems and approaches which promise some solution should be related to each other: either in the sense that experiences with problems would serve as an inducement to adopt and maintain techniques and procedures which could alleviate the problems, or in the sense that the adoption and maintenance of some of the management techniques would lead to fewer problem experiences. The cause-effect relationship might run either way and it cannot be ex ante surmised whether problems lead to solutions (the more problems the higher the adoption/maintenance rate) or whether adoption/maintenance of certain techniques leads to fewer reports of problems (the greater the adoption the fewer the problems ex-perienced). It turns out, however, that there is an essentially zero correlation (actually it amounts to $r = -.014!$) between the Problem and Adoption indices. One may conclude that this suggests that the adoption/maintenance of techniques pattern has been driven by considerations other than those of problems which the EMOs experience in their emergency activities.

No further analysis is carried out here of the rather important problems which concern techniques and practices which the EMOs claim to have adopted at some time but have not maintained. The issue, perhaps, merits special consideration for which a summary paper does not represent the most suitable vehicle.

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V. DISASTER EXPERIENCES AND INVOLVEMENTS

Based on HICA-MYDP documentation, the EMOs in this inquiry were presented with a list of 29 hazards. They were asked to respond whether the particular hazard did occur once or more than once, and whether they were involved in its management in any way. Table 11 provides the key information. The results are reported in rank order of experiences and no distinction is made between emergencies which may have occurred but once and those which were experienced more than once. But some attention will be paid to this difference in the subsequent discussion. The table also gives the percentages of those who reported to have been involved "in the disaster response" - the complementary percentage (the percent tabulated subtracted from 100 percent) of those who claimed disaster experiences but not their direct involvement in response is not explicit in the table. In other words, the percentage of experiences in terms of which the hazards were ranked includes at least one occurrence and, again, the complementary percentage of those who did not report at least one such experience is obtainable by subtracting the tabulated percent from the maximum, 100.

The percentages of experiences range from a high of 86.9 percent (power failures) to the low of 1.6 percent (tsunami). But, of course, not all hazards can occur everywhere or anywhere so the percentages somewhat mask the geographic distributions of realistic hazards: somewhat obviously, one is hardly likely to have encountered a "tsunami" in Kansas, Nebraska or Iowa (and, indeed. almost anywhere but in Hawaii). No geographic adjustment is made in this report since it aims, at this stage, only to provide data on the nationwide distribution

Table 11

DISASTER EXPERIENCES AND INVOLVEMENTS

Rank	Event	Experienced	Involved
1	Power failure	86.9	62.8
2	Winter storm	83.8	72.5
3	Hazmat/highway	77.9	69.0
4	Urban fire	71.3	59.1
5	Flood	69.8	62.3
6	Hazmat/stationary	55.7	61.2
7	Agricultural drought	59.6	20.6
8	Tornado	59.4	49.5
9	Flashflood	53.6	47.0
10	Urban drought	48.0	23.6
11	Air transportation	41.5	34.0
12	Wildfire	41.2	34.3
13	Rail transportation	39.9	32.0
14	Hazmat, rail line	39.0	33.0
15	Hazmat, pipeline	37.5	22.6
16	Hurricane	35.8	32.0
17	Civil disorder	31.2	21.8
18	Earthquake	23.1	13.1
19	Hazmat, river	20.2	16.1
20	Radiological/transport	14.2	12.0
21	Mine disasters	10.8	8.3
22	Landslide	10.4	6.9
23	Subsidence	9.3	5.5
24	Radiological/fixed fac.	8.8	7.1
25	Dam failure	7.9	5.8
26	Nuclear facility	5.0	2.8
27	Volcanic eruption	3.8	2.8
28	Avalanche	2.4	1.0
29	Tsunami	1.6	1.3

There is no clearcut difference in the pattern of experiences with natural and technological hazards: the thirteen obviously natural hazards listed have an average rank of occurrence of 14.1, while the remaining technological hazards have an average rank of 15.1. But some major natural disasters are, of course, reported by many of the respondents and thus rank high: floods, tornadoes, flashfloods; and this is quite clearly related to the fact that such events can, and do, occur across many areas of the country, while the threat of earthquakes or volcanic activities, for instance, threatens generically smaller areas of the nation.

Incidents involving radiological hazards generally rank rather low thus far, while emergencies involving hazardous materials straddle the middle rankings, typically having been experienced by perhaps one fifth of the EMOs.

It may be of some value to explore incidents involving hazardous materials somewhat more. Three of these have to do with essentially fixed facilities, while four items bear on transportation. The three items concerning stationary emergencies include: fixed facilities, pipelines (in that, in a given community, the pipelines themselves are fixed or stationary even though hazardous materials may be "transported" through them) and fixed facilities where the hazard refers to radiological materials. In responding to the separate questions, the EMOs could have reported none, one, two or three types of emergencies which they had encountered. A pattern index was generated and the result is provided in Table 12.

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Table 12
STATIONARY EMERGENCIES INVOLVING HAZMAT

Index Value	Percent
O	27.9
1	44.5
2	23.5
3	4.1

The meaning of the results is simply this: 27.9 percent of the EMOs reported not to have experienced any of the three emergencies involving fixed facilities: in general, pipelines, or facilities which handle radiological materials. It also implies, that 72.1 percent did experience at least one such emergency (44.5 percent one only, 23.5 percent two of them, and 4.1 percent actually marked the questionnaire for all three items).

* Some fixed facility HAZMAT emergency was reported by 40.0 percent of the respondents;

* 19.5 percent reported both such a fixed facility incident and a specific incident involving pipelines;

* 4.1 percent marked all three items: HAZMAT emergency in some fixed facility, pipeline-related incident and radiological HAZMAT hazard in some fixed facility;

* in turn, 3.8 percent cited the two emergencies for which the question specifically postulated a fixed facility (HAZMAT in general and radiological materials problems) and did not refer to incidents involving pipelines;

* pipelines alone, as the locus of an emergency, were mentioned by 3.7 percent of the EMOs.

In a similar manner, emergencies with HAZMAT transportation may be explored.

The transportation items included highway, rail and river transport, and the fourth item

dealt with transportation of radiological materials (without specifying the exact mode of transportation). Table 13, paralleling Table 12, shows whether the EMOs reported none, one, two,three or even all four transportation patterns as having led to an emergency.

Table 13

HAZMAT TRANSPORTATION EMERGENCIES

Index Value	Percent
0	18.5
1	34.2
2	28.3
3	15.4
4	3.6

In all then, 81.5 percent (!) of the EMOs referred to at least one of the modes of HAZMAT transportation as having led to an emergency and, indeed, as many ~~ ·, : percent of them (with index scores of 3 and 4) mentioned all such types of events. Figure 1 shows that:

* 31.1 percent responded that highway transport was involved in an emergency;

* 18.5 percent mentioned both highway and rail incidents;

* 18.5 percent stated that they experienced none of these transportation emergencies (as shown also in Table 13);

* 8.3 percent reported emergencies involving highway, rail as well as river transport of HAZMAT;

* in 5.8 percent of the responses, one finds experiences with highway and river transportation;

TYPES OF HAZMAT
TRANSPORTATION ACCIDENTS

METHODS OF TRANSPORT
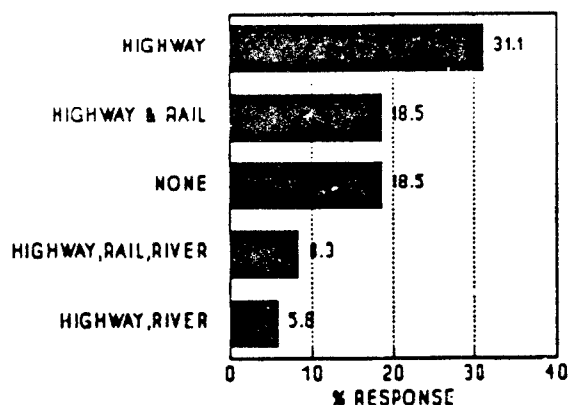
FIGURE 1

In addition when radiological incidents are included we find that:

* highway, train and transportation incidents involving radiological
  materials are referred to by 5.6 percent of these EMOs;

* and, certainly not insignificantly, 3.6 percent yield the index
  score of 4 (Table 13), thus having cited emergencies involving general
  transport of radiological materials, and more specific HAZMAT transport
  by highways, rails and rivers.

In all, 12.8 percent (the researcher cannot but be tempted to say "only" 12.8

percent) were, by their own reports, not exposed to either type of an emergency - one

involving a stationary/fixed facility or one involving transportation of hazardous materials

as shown in Figure 2.

* 15.6 percent reported both a fixed facility HAZMAT incident and some
  emergency involving highway transportation;

* 8.1 percent mentioned a fixed facility problem as well as both
  highway and rail transportation as emergencies they encountered;

* 7.9 percent experienced an emergency concerning highway transportation
  of HAZMAT and no other event;

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HAZMAT ACCIDENTS
TRANSPORTATION & STATIONARY
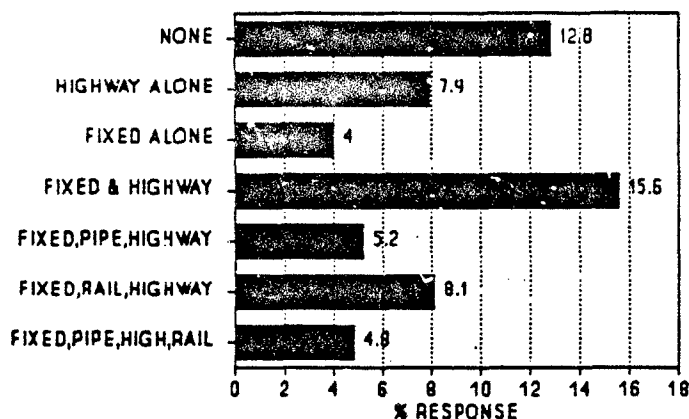
FIGURE 2

* 5.2 percent cited fixed facilities, pipelines and highway incident problems;

* 4.8 percent referred to fixed facilities, pipelines, highway and rail related events;

* 4.0 percent were involved in an emergency having to do with a fixed facility (HAZMAT) only.

Thus almost all of the EMOs have experienced emergencies with HAZMAT, and many of them both in terms of fixed facilities and HAZMAT transportation. Only some 12.8 percent have, thus far, been blessed in not having to face emergencies involving the production, use and transportation of hazardous materials.

The relative frequencies of involvements in disaster response yield a very high rank order correlation with having experienced a particular emergency at least once. The Spearman rho coefficient turns of to be .955 so that, as should not be surprising, the higher the percentage of experiences, the higher the percentage of EMOs involved in the response.

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Table 11, as has been previously mentioned, does not differentiate between single and multiple occurrences of the particular events. It turns out, that the rank correlation between single and more than single occurrence is .596, high, indeed , but not as high as might be expected. Some examples, not exhaustively, will suffice to illustrate some of the differences between single and multiple experiences with given hazards. For instance, urban drought ranks first when it comes to one reported experience but 11th in terms of multiple occurrence (16.4 and 31.6 percent respectively). The occurrence of agricultural drought ranks second when it comes to single experiences, but 9th in the "more than once" category (15.5 and 44.1 percent respectively). An incident involving rail transportation of hazardous materials has rank 4 as a single occurrence, but rank 15 as a repeated experience. Winter storms of disaster proportions have a much higher occurrence ranking (rank 2) as a repeated event than they do as having been experienced but once (rank 16).

Apart from the relativizing rankings, one rule, however, holds for most of the hazards included in the roster: the percentages of EMOs reporting more than one such emergency experience is always greater than the percentage of those reporting a single occurrence, except for radiological incidents at a fixed facility, radiological incidents involving transportation and for volcanic eruption(s). In any case, the events which form an exception to the rule, a minor one at that, have been rather rare. In any case, the rank order correlation between repeated experiences and patterns of involvement in response is .946, while the Spearman coefficient amounts to .553 when the rankings are considered in terms of EMOs involvements and reported single occurrences of the particular emergencies.

The questions pertaining to the 29 specific types of hazards were followed by an open-ended probe to ask the respondents to identify other types of emergencies they may have experienced. Quite a few specific items, indeed, did show up but the percentages in each instance were below 1 percent. Examples might suffice: wind storms, insect infestations, bomb threat, ski lift evacuation, mountain rescue, mass casualties at a special (further unspecified) event,boating accidents, sinkholes, downburst, sniper incidents, high rise rescue, pesticide spill, bridge collapse and/or failure

It would seem possible to subsume many of these _additional_ reported emergencies under the categories explicitly listed. This was not done since the EMOs themselves, who provided such additional data, obviously did not do so themselves and thus viewed these types of events as _not_ falling into the categories to which they previously responded. However, there may well be an alternative interpretation: the events reported apart from the "roster" explicitly provided may have been important enough or, for that matter, somehow unique so that the EMOs did not feel comfortable in subsuming them under the more generic headings and preferred to assign them a more specific, and thus somewhat less ambiguous, label. In fact, 9.2 percent of the EMOs mentioned _one_ additional emergency beyond the 29 specifically listed, 2.4 percent identified _two_ such events, and 0.7 percent referred to _three_ disasters, or events which they considered of sufficient importance to mention and which were not, in their own perception, "covered" by the explicit roster of hazards.

In sum,

1. The experiences of the EMOs are quite heterogeneous as might be expected.

2. Some emergencies have been encountered more than once by most of the emergency managers; some have been experienced by only a few of them.

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3. Among natural disasters, floods, tornadoes and flashfloods are very frequently reported as having been experienced at least once, radiological incidents are relatively rare while incidents involving hazardous materials represent a fairly high level of experience, both transportation incidents and emergencies at stationary locations of such materials.

4. For emergencies reported to have been experienced more than once by many EMOs, the percentage of those who were involved in the disaster response also tends to be high - not a surprising finding.

5. Basically, the percentages of those who cited repeated, rather than single, occurrences were higher, and generally much higher, than were the percentages of those who mentioned but one experience with a particular hazard. This is especially true for the most frequently identified emergencies.

6. The EMOs were significantly involved in disaster response whether the event occurred but once or more times. But they were much more frequently involved in disaster responses for those hazards which they experienced more than once.

This all may well imply that in communities with relatively little experience with emergencies and disasters, the officials serve mainly in the role of planners and not be directly involve in disaster response. Where emergencies have occurred with some frequency, the role may be more defined as that of a coordinator of the operational response. It, too, might be the case that actualizations of disasters provide the local/county EMO to expand his/her role from planning to response coordination especially if effective management of operational response proves to be somewhat less effective than it might be.

VI. THE THREAT OF HAZARDS

Questions 36 through 64, in turn, sought to ascertain the kinds of hazards local and county EMOs thought their areas had to face. The listing including the same twenty-nine (29) hazards which were incorporated into the probe about prior experiences and involvements in disaster response. The questions, in this segment of the instrument, involved two dimensions: whether or not a given hazard might potentially affect the community or area, and whether the hazard was to be considered a significant one.

In keeping with the HICA-MYDP approach, a significant hazard was defined (and the definition was included in the questionnaire) as one which (a) historically has affected the jurisdiction, (b) could result in loss of life or property, (c) the emergency management organization at the appropriate local/county level would be involved in response, and (d) specific plans exist or are needed to respond to the hazard.

Thus the first question concerning the potential threat has to do with the likelihood of the respective event, while the probe regarding the significance of the threat identifies some of these events as quite likely, likely to have important impacts on the area, likely to involve the emergency personnel were it to occur, and likely to have been planned for (or rather against) or requiring appropriate planning.

Table 14 contains the responses of the EMOs, and the hazards are again presented in the rank order of the percentages of reports on the part of those who viewed each event as potentially affecting their jurisdictional area.

Here, in terms of the ranking pattern, natural disasters yield an average rank of 16.7, while man-made, or technological threats yield an average of 13.6. And when it

comes to identifying significant hazards, the difference is somewhat increased: the rank average is 17.5 for natural hazards but 13.0 for technological ones.

No such differences emerged in the previous Chapter of the paper in which the respondents identified occurrences of various emergency/disaster events. Thus it would seem that threat to the jurisdictional areas is somewhat more often seen in terms of failures of, and problems with, human technologies (directly or indirectly) than in terms of natural disasters.

In this regard, the concerns with hazardous materials, their rail and highway transportation and such fixed facilities as may exist are of great importance, as are worries about air transportation disasters and incidents involving transportation of radiological materials - a matter which could be considered but a version of transportation of hazardous materials in general. Winter storms with their impact, tornadoes, floods and flashfloods (having been also experience by a majority of the respondents more than once) rank also quite high on this roster of worries.

Events likely to occur in the jurisdiction also tend to be viewed, on balance, as representing a significant threat. Perhaps in other words: the more likely such events are to occur, the more significant they are perceived to be if they occur. The rank order correlation amounts to .974, and the correlations, in Spearman rho terms between the experiences (as reported previously) and assessment of threat and of defining the threat as a significant one are also high: the coefficient becomes .862 between reported experiences and the threat posed to the community, and it is .867, slightly higher, for the relationship between the ranking of the hazards by their occurrence and by their perceived significance for the respondent's jurisdiction.

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Table 14
THE THREAT OF HAZARDS AND THEIR SIGNIFICANCE

Rank	Event	Threat	Significant threat
1	Hazmat/highway	97.8	91.5
2	Power failure	95.2	68.8
3	Hazmat/stationary	89.9	76.9
4	Winter storm	88.7	75.8
5	Radiological/transp.	85.8	63.0
6	Hazmat/rail line	82.8	75.6
7	Urban fire	82.6	67.9
8	Air transport	82.0	69.9
9	Tornado	81.2	68.7
10	Flood	80.6	61.5
11	Railway transport	78.5	64.7
12	Flashflood	69.7	52.6
13	Urban drought	68.9	39.9
14	Agricultural drought	67.5	42.9
15	Hazmat/pipeline	67.4	53.6
16	Civil disorder	66.7	37.4
17	Wildfire	58.4	43.4
18	Earthquake	54.4	32.4
19	Dam failure	46.1	29.4
20	Hazmat/river	44.4	34.2
21	Hurricane	39.9	32.0
22	Radiological/fixed	38.8	24.4
23	Nuclear facility	28.0	18.1
24	Subsidence	19.7	10.3
25	Landslide	18.9	8.0
26	Mine disaster	16.0	10.4
27	Avalanche	6.0	1.7
28	Volcano	5.3	3.1
29	Tsunami	4.3	2.3

Prior involvements in disaster response also produce high (rank order) correlations with both threat perceptions and the assessment of the threat as a significant one: the corresponding coefficients are .857 and .882, suggesting a somewhat greater, though just by a small extent, tendency to define as significant those threats in the management of which the EMOs had been previously engaged.

One central finding permeates the data: generally more of the EMOs, and often many more, perceive a threat, and even a significant one, to their jurisdictional (local/county) area from a particular hazard than reported having experienced it at least once previously.

This suggests, if anything, heightened sensitivity to, or concern over, risks in the future and, perhaps, a sense that some disasters which have yet to occur are likely to actualize somewhere along the line. It, too, may naturally reflect an indirect, even subconscious, prodding of the larger body politic and of the relevant Government levels that more needs to be done to prepare our communities to face future hazards and to prepare them better. In any event, such an emphasis is certainly also not misplaced since the complexities of modern life, and the broadly perceived threats to the wellbeing of our people, cannot but be of profound concern to the EMOs. And furthermore: as the general standard of living increases, as it does even though at a relatively slow pace, there is more to lose in any given disaster than would have been the case some years or decades ago, and this holds not only about property (which is, after all, inherently replaceable) but also about population growth and the distribution of our people across the national landscape.

And so:

1. More than 80 percent of the EMOs identify ten (10) of the hazards as a potential threat to their communities and more than two thirds of them consider six (6) of the hazards to pose a _significant_ danger: to wit, highway and railway transportation of hazardous materials, incidents involving fixed facilities dealing with, or processing, hazardous materials, power failures, winter storms and tornadoes. On this list, four of the hazards involve technological threats and two are of the natural disaster variety.

2. Hazards posing a threat to the community also tend to be seen as _significant_ ones.

3. The future threats, in the way of guestimates by the EMOs, exceed the reports of prior emergency experiences with the respective hazards.

4. Experiences with prior emergency of a given kind are, at least in terms of rankings of the different events, highly related to perceptions of threat and to the imputation of significance to such dangers.

5. Prior involvements in disaster management, in rank terms, are also highly related to threat identifications and even (if slightly) more so to the designation of a particular threat as a significant one.

VII. MAJOR RESOURCES

Eleven items were identified as critical resources. The EMOs were asked to indicate whether updated inventories existed, whether there may exist shortfalls in any of the resource areas, whether they may have identified potential sources or suppliers, whether they have written agreements in place with respect to the acquisition and flow of such resources, whether priority allocations have been planned and whether any of these resources might have to be rationed in some manner in the event of specific shortages.

In all, 86.0 percent of the EMOs said that there was a specific individual in their organization with responsibilities for resource management. Some 26.3 percent reported that their resource data base was computerized.

The data of Table 15 show that more than two thirds of the EMOs maintain updated inventories of three of the key resources: manpower, emergency transportation and heavy equipment; and the maintenance of inventories falls below 50 percent only with respect to construction materials, emergency clothing and emergency finances.

In turn, only emergency finances are referred to among the shortfalls by a slight majority of the respondents (51.1) while other resource deficiencies are mentioned generally by one fifth to one third of the EMOs. How the EMOs arrived at a judgement that a particular resource would be potentially insufficient and thus constitute what has been termed here "a shortfall" cannot be ascertained, but at the minimum, these are claims regarding shortfalls and whether they reflect some realistic assessment or but a more general viewpoint does not change the value of such information.

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Table 15

RESOURCE INVENTORIES AND SHORTFALLS

Resource	Inventory	Shortfall
Manpower	82.6	30.3
Emergency transportation	72.8	23.9
Heavy equipment	71.5	23.3
Medical, sanitation supplies	61.6	24.6
Emergency housing	60.2	31.6
Emergency fuel	58.9	28.0
Emergency food	55.2	30.7
Emergency water	51.7	30.4
Construction materials	35.3	27.5
Emergency clothing	35.2	35.0
Emergency finances	33.4	51.1

Potential sources or suppliers of critical resources have been quite often identified and a fair number of written agreements appear to be in place to provide such needed resources under emergency conditions. Yet, for any of the resources such agreements do not exist in a majority of the jurisdictions and, more typically, they characterize some 10 percent to one somewhat over one third of the programs, with agreements regarding manpower being the only resource on which agreements exceed 40 percent (44.6 percent). Table 16 sums up the information.

Table 16
SOURCE IDENTIFICATIONS AND WRITTEN AGREEMENTS

Resource	Source identified	Agreement
Heavy equipment	70.7	30.9
Manpower	70.0	44.6
Emergency transportation	69.3	30.0
Emergency housing	58.7	34.7
Medical, sanitation supplies	58.1	30.6
Emergency fuel	58.0	22.3
Emergency food	57.6	26.8
Emergency water	53.3	21.4
Construction materials	44.7	9.7
Emergency clothing	43.3	16.3
Emergency finances	38.5	16.9

In about one in ten to one in three of the jurisdictions some priority allocation plans for resource utilization have been developed in light of competing local demands, though many more respondents believe that some of the resources (especially food, water and fuel) would have to be rationed for public use. The results are provided in Table 17.

Looking across the data, some truly interesting findings emerge. For example, the rank order correlation between maintaining up-to-date resource inventories and perceptions of likely shortfalls has a rather high negative value of -.664. This might suggest that more, or better, inventories are kept of resources less likely to prove insufficient in an emergency situation. But an almost opposite perspective seems also quite compelling: the resources may prove more sufficient precisely because better invrntc ies are in place.

Table 17

PRIORITY ALLOCATIONS AND RATIONING PROSPECTS

Resource	Prioritized	Rationing
Manpower	34.5	17.0
Emergency transportation	30.0	25.3
Medical, sanitation supplies	26.3	40.1
Heavy equipment	25.0	19.0
Emergency food	23.3	70.9
Emergency fuel	22.5	66.6
Emergency water	21.5	73.6
Emergency finance	13.3	33.0
Emergency clothing	11.3	28.5
Construction materials	10.4	21.8

Along similar lines: the rank correlation between development of priority allocation plans and the perceived need for possible rationing is also negative, that is, -.254, and so is the correlation between shortfalls and the development of priorities regarding resource utilization, -.534, while the correlation between shortfall identification and the possible need for rationing has a positive coefficient of +.364.

What does all this suggest? More d better inventories exist for critical resources less likely to prove insufficient, and perhaps this is, to repeat, chiefly due to the very fact that inventories get developed and are maintained; priority allocations tend to be made for resources less likely to have to be rationed; perceived shortfalls refer to resources less likely to involve priority allocation planning, but the probable shortfalls are more likely to involve resources which may need to be rationed. It might well be construed to mean that the EMOs might be taking the easy way out, that is, dealing with problems that are more

manageable and dealing less with problems that could present serious difficulties in a disaster environment.

On the other hand, a strong argument can be made to say that some problems are less vexing precisely because the EMOs have taken steps to deal with, and overcome, what would otherwise be very serious difficulties. The data, of course, do not directly support such a speculation or any other, but one cannot escape the sense that there is some such meaning behind the pattern of the data. A more detailed analysis, not here carried out, may shed some light on this by considering the interrelations of these items.

In part, the speculation previously proposed is somewhat weakened by the fact that some 78.3 percent of the EMOs reported having made some provisions for obtaining resources during an emergency. The data come from a response to an open-ended probe following the explicit questions about the eleven resource categories included in the instrument. But the responses remain somewhat unspecific, at least the major ones. Thus 19.5 percent of the EMOs refer to various forms of "mutual aid," a pattern of less than formal agreements with others; 16.2 percent mention disaster plans, EOPs or appropriate Manuals; 11.8 percent are quite specific in citing agreements (not necessarily written) with local suppliers (business, industry) and vendors, with transporters and the like. Almost 10 percent of them (actually, 9.8 percent) refer to agreements with various government agencies. Telephone lists or computerized resource lists are explicitly mentioned by 5.0 percent of the respondents as a way of accessing potential sources and suppliers of needed resources in a disaster situation.

In sum:

1. On the national scale, critical resource management is clearly something of a problem. In many jurisdictions and at least with respect to some resources, up-to-date inventories do not exist, and even though sources and suppliers of resources of the likely shortfall variety may have been identified (and in many jurisdictions this too has yet to be accomplished), written agreements which would formalize the flows of resources when needed are _relatively_ infrequent as are plans regarding allocations of scarce resources when they would be most needed.

2. Even in jurisdictions in which inventories are reported and shortfalls are identified there appears to be some tendency to address resource issues which seem more easily amenable to intervention than to deal with the more problematic resources, _or else_, and perhaps _even more likely_, the active steps the EMOs took to handle the more serious problems have succeeded in reducing their severity.

3. Yet, in 86.0 percent of the instances a particular professional or employee _is_ responsible for resource management, an admittedly very difficult task but one which, perhaps, might be facilitated by its better definition in terms of goals to be achieved and how to go about achieving them.

VIII. EMERGENCY OPERATIONS CENTERS

Only 9.2 percent of the EMOs said that there was no EOC in their jurisdictional areas. And 88.8 percent responded that an EOC did exist. Without doubt, an EOC where all appropriate personnel with emergency management responsibilities, from whatever agency as well as from relevant governmental level, can assemble and coordinate their efforts is yet another critical resource. Some of the EOCs have coordinating responsibilities beyond the jurisdictional area in which they are located. Table 18 provides the relevant data.

Table 18

EOCs SERVING BEYOND JURISDICTIONAL LOCATION

	Percent
State EOC	5.5
Alternate EOC	8.0
Substate regional ("central") EOC	7.8

Fourteen questions, adapted from the HICA-MYDP instruments, were used to ask the respondents to identify some of the key characteristics of their respective EOCs. Table 19 is ordered by the percentages of responses to each of these items. It shows that most of the facilities are protected against unauthorized entry and that they have a capability of receiving alerts and warnings from both State and Federal authorities on a 24-hour a day basis. More than three out of four are located outside of flood plains, and just about as many are activatable within about 15 minutes.

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Table 19
SOME CHARACTERISTICS OF THE EOCs

	Percent
Protected from unauthorized entry, theft. vandalism	79.5
Capable of receiving alerts and warnings from State and Federal authorities	77.3
Located outside of flood plains	76.3
Capable of 15-minute activation	75.1
Has own independent heating, air conditioning, ventilation system	52.4
Protects equipment against power surge	51.0
Operated on a 24-hour a day basis	50.2
Has at least 50 square feet of space per person for all officials and staff	48.4
Has own independent sanitary facilities	44.7
Has own independent mechanical generator with connected 14 day fuel supply	41.4
Stocked, or has access to, food,medical operational supplies and communications repair parts (for 14 days at least)	30.7
Has independent water supply	27.6
Provides EMP protection	14.4
Is mobile (such as a trailer)	10.3

By contrast then, but a few of the extant facilities are mobile or can provide protection against the electromagnetic pulse (which particular configurations and deployments of nuclear weapons could cause), and many do not have an independent water supply or necessary supplies of water and food or needed repair parts, at least not for the postulated two week period.

The picture which emerges is one of EOCs as rather rudimentary facilities which fall quite short of what might be desirable and, under the most severe conditions, even prudent. But this in itself does neither deny their utility nor their value, and it establishes the kinds of benchmarks relative to which further enhancements in the EOC capabilities can, and most likely will, be pursued. To a significant, though naturally imperfect, degree some key standard operating procedures have been developed for the EOC or whatever direction and control facility. The data are given in Table 20.

Table 20
STANDARD OPERATING PROCEDURES

SOPs	Percent
Identification of responsibilities of direction and control staff	78.0
Outlining communications procedures and protocols	74.2
Outlining operations at less than planned staff levels	63.1
Providing for direction and control staff augmentation by volunteers, if needed	60.5

Many of the EOC-type facilities have dual, or even multiple, use. Some 71.6 percent of the EMOs reported that the EOC, or the area that serves as the EOC, is used for other functions as well. Indeed, in many instances the additional function is clearly the primary one. The most frequent responses are provided in Table 21. Public safety, police and fire operations and communications areas are often cited in this regard as are other more specific office or meeting room uses of the area.

Table 21

ADDITIONAL OR PRIMARY USES OF EOC AREA

Use, Function	Percent
Me⁻ room	21.5
Cla. rooms, training rooms	16.5
Emergency response staff offices	13.4
Police operations/communications	9.6
Emergency dispatch/communications	7.6
Fire operations/communications	5.0
County sheriff's operations/communications	4.0

But there are, on the whole, many other functions involved. Examples might suffice since each involves but a few of the respondents. The EOC is also used as the county courthouse (1.9 percent): in other words, the county courthouse houses the EOC and the courthouse function is self-evidently the dominant one. The area is used for storage purposes, as a lunchroom, as an animal control center, as the coroner's office or offices, as an alternative school. It is located in a fire station, it is used as lockers and showers area, as offices for city or county administrators, as a museum or art gallery, as a library, as the grand jury room and the like.

Some points perhaps merit highlighting.

1. There does exist an EOC or some direction and control facility in by far most of the jurisdictions from which responses were obtained in this study.

2. Basically however, the EOCs are rather simple, rudimentary, in their characteristics so that a great deal of enhancement and improvement is possible, and perhaps needed.

3. Most are operated on a 24-hour basis, though by far not all, and most can be activated within about 15 minutes, and most are thus capable of receiving alert and warning messages from governmental authorities, State and Federal, at any time.

4. Quite a few of the EOCs are not dedicated areas but are used for other purposes on a more routine basis and, in fact, it is the EOC function that tends to be secondary (which is neither surprising nor bothersome in light of the pressure on space utilization) to the primary or other activities which the EOC-defined area subserves.

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IX. SHELTERS

In all, 67.1 percent of the EMOs asserted that their jurisdiction is in possession of current Shelter Survey information. But one in four, 25.3 percent, responded to the question in the negative. Many jurisdictions, 76.2 percent, have also planned for suitable locations to be used as registration and reception centers for shelter facilities, 16.5 percent reported no such plans.

Emergency housing, of course, also constitutes a kind of shelter. In a previous Chapter (Chapter VII) it has been already shown that 61.2 percent of the respondents stated that updated inventories of housing in the event of an emergency were being maintained, that this might prove to be insufficient in times of need (31.6 percent), that potential sources of additional housing to bridge the difference between what is available and the likely shortfall have been identified (58.7 percent), and 34.7 percent mentioned that written agreements regarding emergency housing were in place.

In an attack environment, the EOCs, if they were to continue their activities, would also have to serve as shelter for the direction and control personnel. At the minimum, they could serve as fallout shelters since it certainly cannot be expected that EOCs, any more than other structures save those constructed solely for that purpose, would survive primary weapons effects.

The EMOs were asked about the protection factor of their respective EOCs. The data are shown in Table 22. Quite obviously, only about one third of the EOCs are characterized by a PF of 40 or more, and very few, indeed, have a PF of 1000 or more (3.8 percent).

Table 22

PROTECTION FACTOR OF EOCs

Protection factor	Percent
Less than 40	14.2
PF 40 to PF 100	12.9
PF 100 to PF 1000	14.7
PF 1000 or higher	3.8
Don't know	42.4

But most surprising is the finding that so many of the EMOs did not know the possible PF of the facility. In fact, if those who did not answer the question, 5.1 percent, are likely to be respondents who also did not know, as seems probable, but didn't want to mark the "don't know" response option, it is fair to conclude that almost half of the EMOs were unaware of the fallout sheltering potential of the EOCs in their jurisdictions. Needless to say, in an international environment in which a nuclear war seemed more probable, were it not actually imminent, the EMOs would be eager, and able, to determine the capabilities of their EOCs in short order. What the finding, however, may well underscore is the observation that certain types of information, no matter how otherwise valuable, will not be absorbed and retained or even acquired when there appears to be little need for it, when such information appears to be irrelevant.

It is findings such as these which repeatedly indicate why educational and informational campaigns in general, not just FEMA's, do not lead to significant changes in public awareness or understanding. Here, in fact, the professionals in the emergency management community are uninformed and it is obviously reasonable to argue that this is, indeed, due to the irrelevance of such information under normalcy conditions when so

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many things need to be known and done about situations and hazards much more salient

at the time than the remote possibility of a nuclear confrontation.

X. PERSONNEL

Full time paid personnel in the emergency management organizations of the EMOs in this study is certainly anything but abundant. Some 76.2 percent of the EMOs reported paid full time personnel levels of four or fewer and, actually, 35.8 percent stated that there was no full time personnel in their jurisdiction, the question having explicitly asked to exclude other emergency service personnel, fire and police as well as 911 or emergency dispatch personnel.

When it comes to paid part-timers, the situation is similar: indeed, 45.2 percent did not report even one part time employee in this category, and 82.8 percent referred to four or fewer members of part-time personnel. Only 16.6 percent had five or more full-time professionals, and 8.7 percent five or more part-timers. Table 23 contains the data summary.

Of course, no conclusions can be adequately drawn, or at least few interpretations are possible, unless an analysis is conducted to identify the size of the respective jurisdictions and this is not accomplished in this preliminary report. After all, the majority of the nation's jurisdictions is represented by rather small townships and boroughs where the need for emergency management personnel would be less pressing and the means for their employment less available.

And then, of course, there are volunteers. It turns out that 57.9 percent of the EMOs reported the involvement of five or more volunteers though 21.3 percent also mentioned that no volunteers were active. But volunteers obviously represent a very significant portion of the nation's emergency management community.

Table 23

EMERGENCY MANAGEMENT PERSONNEL

Personnel	Full-time	Part-time	Volunteer
None	35.8	45.3	21.2
One	17.6	22.5	3.0
Two to four	22.8	15.0	7.8
Five or more	16.7	8.8	57.9

Apart from the fact that some 11.0 percent of the responding EMOs themselves are unpaid workers, and thus volunteers (Chapter II), volunteers have been used in a variety of activities.

Table 24

MAIN USES OF VOLUNTEERS

Activity	Percent
Search and rescue	68.8
Communications	66.3
Clerical tasks	39.0
Administrative tasks	36.9
Sand-bagging	33.4
Other activities	30.5

In fact, some 59 different activities were mentioned by the respondents in the "Other activities" category, though some might be subsumed under the broader clusters of Table 24. Relatively more frequent responses include volunteer firefighting (7.3 percent), shelter operations (4.5 percent), traffic control (4.0 percent), transportation (3.4 percent), weather spotting or volunteer law enforcement (2.9 percent for each item), civil defense (2.7 percent), medical technicians (2.3 percent), laborers (2.0 percent).

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Examples of other volunteer activities, mentioned by fewer than 2.0 percent of the respondents, must suffice: fundraising, equipment maintenance, legal assistance, data processing and computerization, mapping, recruiting, stress support and counseling, salvage operations.

PERCEPTION OF VOLUNTEERS
BY EMOS
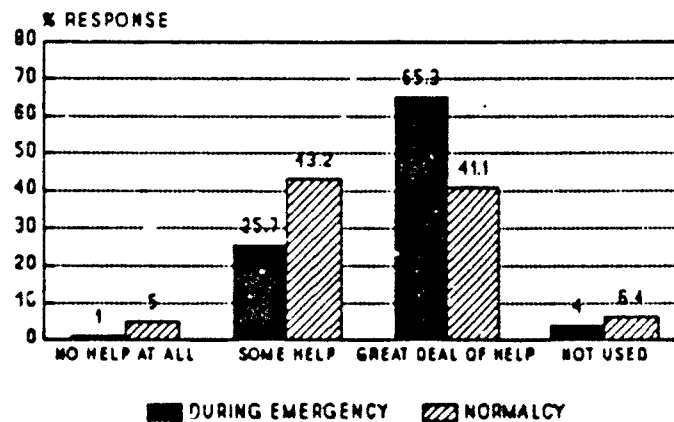
FIGURE 3

And though, as reported in Chapter III, some 25.6 percent of the respondents identified some problems with volunteers, by far most of the EMOs tend to appreciate their help. Figure 3 provides data on the extent to which volunteers do help both in an emergency situation as well as under normalcy conditions, so to say, between disasters. Clearly, volunteers are seen as being of more help during an emergency than under relative normalcy conditions, but under both circumstances, only very few of the EMOs believe that they have been of "no help at all" and small percentages report not having used volunteers, at least not thus far. It is, therefore, in no way surprising to find that the respondents do not subscribe to the idea that volunteers would cause more problems than their efforts would be worth.

Though a little more than one in ten of tho EMOs are inclined to argue that volunteers are more of a problem than of help, over 76 percent of them do not agree or do not agree strongly with this proposition. (See Table 25) Many of the EMOs also disagree that only trained volunteers are an asset, but there is also a great deal of agreement with this viewpoint. Table 26 contains the basic data.

Table 25
VOLUNTEERS: PROBLEM OR PART OF A SOLUTION?

More problem than worth	Percent
Strongly agree	2.6
Agree	8.8
Unsure	11.5
Disagree	54.4
Strongly disagree	22.0

If opinions on the value of untrained volunteers are quite split, there is more of a concern over problems of liability, though almost four in ten of the respondents do not consider this to be a difficulty either. And almost two thirds of the EMOs do not agree that their jurisdiction could not afford to assign appropriate staff to supervise activities of volunteers under disaster conditions. Question 172 of the instrument probed into some of the main management practices as they apply to volunteer workers Table 27 presents the summary results.

Overall, 89.4 percent of the EMOs reported (Question 84) that their jurisdiction has developed, and maintains, call-up lists to facilitate the mobilization of available personnel resources when needed. The practice was not claimed to exist by 9.4 percent of the respondents.

Table 26

SOME PROPOSITIONS ABOUT VOLUNTEERS

	Agree	Unsure	Disagree
Trained volunteers may be useful but not untrained citizens	46.8	4.6	47.5
Liability problems using volunteers are great	46.2	12.9	38.9
The jurisdiction cannot spare staff to supervise volunteers in a disaster	23.1	9.4	65.0

Table 27

VOLUNTEER MANAGEMENT PRACTICES

	Percent
Trained volunteers used (auxiliary, cadets, SAR)	69.3
List of potential volunteers on file	57.2
Plan to have private agency, like the Red Cross, handle volunteers	55.2
Volunteer coordinator on staff	39.0
Retired personnel on call for emergencies	37.0
Individual Mobilization Augmentees	16.3

Thus:

1. In many jurisdictions, there is no paid full-time emergency manager and the tasks is being handled by someone else, the fire or police chief for the most, with a different, somewhat narrower, primary assignment, or it is being dealt with (11.0 percent) by an unpaid, and thus volunteer, professional.

2. Volunteers represent an important, even crucial, resource and are, in fact, seen as such by most of the EMOs.

3. Volunteers have been deployed in a great variety of tasks and the EMOs believe that the benefits of using volunteers outweigh whatever disadvantages.

4. Problems of liability may well serve as an important deterrent in the use of volunteers, but in light of their widespread involvement this, too, does not appear to be a major difficulty.

5. Only few jurisdictions have not used volunteers at all thus far. The reasons for this cannot be directly surmised from the data or, at least not at this simple level of analysis.

6. Most jurisdictions do use trained volunteers and maintain files of potential volunteers as well as generic files of mobilizable personnel.

7. In a majority of the jurisdictions, some plans exist to have a private agency, generally the Red Cross, help in the management of volunteers, but many EMOs (39.0 percent) also reported that a staff person in their organization was assigned responsibilities for coordinating activities of volunteers.

XI. KEY INTERFACES

Two questions (items 173 and 174) sought to probe into the relationship between the emergency management organization and other governmental agencies (Question 174) and organizations in the private sector (Question 173). The EMOs were asked to identify governmental agencies which regularly participate in exercises, critiques, or other planning activities in their jurisdiction. The results are presented in Table 28.

Table 28
INTERFACES WITH GOVERNMENTAL AGENCIES

Agency	Percent involved
Fire services	95.3
Law enforcement	92.2
Emergency medical services	87.8
Public works/streets and roads	66.9
City manager, CAO, Mayor's office	65.8
Public health	54.1
Water/sanitation authority	42.7
Finance or General Administration	34.1
Planning/Housing and Community Development	20.1
Fleet/General Services	20.0
City/County Attorney's Office	19.0

Fire and police departments along with emergency medical services thus appear to participate in the activities almost invariably and the involvement of public works officials is also quite frequent, having been reported by just about two thirds of the EMOs. The participation of General Services and of the Attorney's Office is more unusual but it still marks some 20 percent of the cases in the study.

The evidence therefore suggests considerable interactions, at least with respect to the issues the question was explicit about (planning, exercises, critiques). No data are available in this research on specific benefits which the emergency management system does derive from such patterns of participation or on problems which may be experienced in the process. What does remain clear, however, is the basic finding that the emergency management activities, under whatever organizational umbrella they may be housed, are generally not at all somehow isolated from other governmental agencies whose efforts may, too, be central in disaster prevention, management and recovery.

Quite a few organizations in the private sector are also involved. The question (item 173) asked whether specific organizations have a formally defined role in emergency management. The data of Table 29 show the crucial, even central, role of the American Red Cross, but Citizens Band Radio Amateurs as well as RACES are also involved in important ways, as is a local search and rescue associations or clubs. The patterns, then, link the public emergency management system to the community at large and in ways that cannot but be productive regardless of occasional difficulties which complexities of interfaces entail.

In the way of a belated afterthought, it would have been prudent to include, in the listing, several other organizations such as churches and synagogues, Boy and Girl Scouts, Labor Unions and the major social clubs such as the Rotary, the Shriners, the Elks, the Lions and the like. While it is possible, and perhaps even probable, that such organizations (and others) may not have any formally assigned roles in emergency management, it may have been revealing to discover the extent to which, even if rarely, they do.

Table 29

INVOLVEMENTS OF PRIVATE SECTOR ORGANIZATIONS

Organization	Percent involved
Red Cross	84.9
Citizen band radio amateurs	55.2
RACES	51.7
Local search and rescue association/club	40.0
Chamber of Commerce	23.7
Area Agency on aging or Senior Council	20.7
Local Volunteer Bureau	6 9
Traveller's Aid Chapter or Committee	2.7

In any event, the data show:

1. The emergency management system includes, at least in some of its activities, many other Departments and Agencies of the local and/ County government.

2. It also involves many community organizations in the private sector, the Red Cross above all.

3. The EMOs thus are not somehow isolated in their efforts from the organizations in their jurisdictions and through them, they are also linked to the general public in obviously important ways.

XII. TESTS AND EXERCISES

Figure 4 shows that two thirds of the responding EMOs, 66.6 percent of them, reported that "a major portion of [their] jurisdiction's Emergency Operations Plan was exercised or implemented in the course of the past year." Nuclear attack exercises in the

EXERCISES AND IMPLEMENTATIONS
TYPES OF EXERCISES
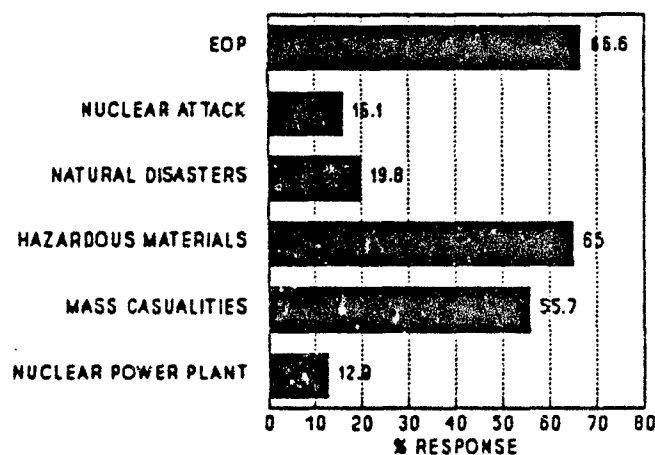
FIGURE 4

past three years were mentioned by 16.1 percent of the EMOs, while 85.2 percent stated that, again in the course of the prior three year period, an exercise was carried out against hazards other than that of nuclear war. For the most part these were exercises for possible hazardous materials incidents (65.0 percent), mass casualty accidents (plane crash, train derailment/crash and the like) which 55.7 percent reported, and nuclear power plan accidents (12.9 percent). Many respondents mentioned exercises other than those to which the question (item 141 of the questionnaire) explicitly referred: 19.8 reported exercises concerning possible natural disasters, and 14.6 percent were involved

in conducting exercises for technological hazards other than those concerning hazardous materials or nuclear power plants.

When general, or more specific, system exercises are held, they are usually (77.7 percent) evaluated so as to identify problems and generate possible suggestions for improvements. By far most jurisdictions (83.3 percent) test all their communications links regularly, and 39.1 percent claim to have a protected communications link with an Emergency Broadcast System station. Table 30 shows the frequencies with which such communications links are reported to be tested.

Table 30

FREQUENCY OF TESTING EBS COMMUNICATIONS LINKS

	Percent of those with links	Percent of sample
Daily	9.2	3.5
Weekly	22.8	8.7
Monthly	33.3	12.7
Yearly	7.6	2.9
No regular schedule	6.9	18.1
Other	8.9	3.4

Thus the communications links with an Emergency Broadcast System participating station get generally tested on a monthly, biweekly ('ncluded in the "other" category) or weekly basis, though one in ten of the EMOs reported daily tests.

Some 9.9 percent of the respondents said that there was no emergency power generator in their jurisdiction, and for 6.6 percent of the respondents the question about testing the emergency power source did not appear applicable to their work and respon-

sibilities. Among those who answered and where an emergency power generator did exist, by far most (67.1 percent) reported testing it on a weekly basis, and another 28.6 percent mentioned monthly testing. The remaining (4.3 percent) EMOs for whom the question was relevant actually said that the emergency power generator was being tested on a daily basis.

Most of those to whom the question was applicable and those who responded, 85.5 percent of the sample, stated that the alerting and warning equipment in their jurisdiction was tested at least once a month (34.2 percent), or each week (30.7). But 26.9 percent also said that there was no established procedure or that such warning system tests were quite infrequent, and 8.2 percent mentioned testing every two or three months, 72.5 percent of the EMOs were able and willing to estimate the typical pattern of warning equipment failures "based on tests over the course of a year." Table 31 provides the data.

Table 31
WARNING EQUIPMENT FAILURES

Failure rate	Percent
5 percent or less of inventory	70.6
6 to 10 percent of inventory	16.1
11 to 25 percent of inventory	6.3
25 or more percent of inventory	6.9

Clearly, warning equipment malfunctions and failures which involve more than one quarter of the jurisdiction's inventory, or even failures in excess of 10 percent, present quite special, and potentially very serious, problems.

XIII. WARNING

Two major issues form the focus of this segment of the report: one concerns the problems of alerting and warning the emergency management system itself; the second one has to do with warning the general public of an impending emergency.

In the prior section of the report, it has been already shown that some 50.2 percent of the EOCs are operated on a 24-hour basis and that 77.3 percent of the EMOs asserted that the EOC or an appropriate direction and control facility was capable of receiving alerting and warning message from State and Federal authorities every hour of every day. Furthermore, 75.1 percent of the EMOs reported that the EOC or a direction and control facility can be activated in about 15 minutes. What, in turn, is involved in the lapsed time in which the actual emergency responders can be informed and in which relevant government officials can be informed? The results presented in Figure 5 lead to a simple conclusion: in most instances, this aspect of the mobilizing process would not take more than about 30 minutes and, in fact, even less than 15 minutes. Mobilizing the emergency responders is quite obviously a priority and the data reflect the rapidity with which the EMOs are convinced this can be accomplished.

Often, the issue of the so-called 'role conflict" gets raised and of its impact on emergency operations. It has to do, of course, with the possibility that some emergency responders might not show up for duty in order to take care of their family and neighbors, that others might, at least temporarily, abandon their emergency-related roles in order to ascertain the fate of their family and friends.

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TIME NEED FOR MOBILIZATION

TIME

UP TO 5 MINUTES ... 81.6 / 19.6

C.OSE TO 15 MINS. ... 13.5 / 41.4

CLOSE TO 30 MINS. ... 3.4 / 27.2

MORE THAN 30 MINS. ... 1.4 / 11.8

% RESPONSE

■ REPONDERS   ▨ OFFICIALS
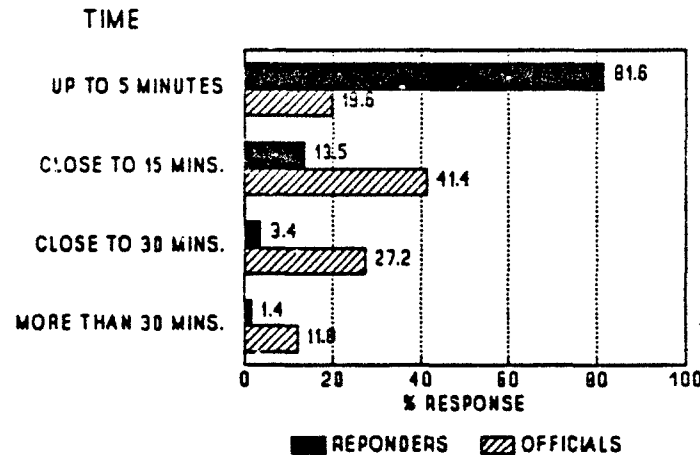
FIGURE 5

The whole "role conflict" issue, however, is more of a theoretical than a realistic one. There is very little evidence in any actual disaster that many emergency responders would either fail to show up or abandon their disaster-related tasks in order to _first_ take care of possible family, neighborhood or friends problems.

Yet, there is no question that the responders cannot but be deeply concerned about their loved ones, especially when they cannot determine immediately and on a first hand basis whether or not they may been victimized by the disaster. Thus some methods and procedures to alleviate the stress which such concerns cannot but induce seem like a prudent approach to the potential difficulty. In fact, 40.4 percent of the EMOs said that there existed procedures in their jurisdictions "to find out rapidly the condition of the families and property of emergency response personnel."

Standard operating procedures for some of the central dimensions of emergency-related mobilization of the system are quite prevalent as the data of Table 32 clearly show.

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Previously (Chapter XII), it has been shown that equipment to warn the general public (siren systems on the whole) gets typically tested at least once a month. And also, that a very significant number of the EMOs reported that at least 5 percent of the equipment, given their experiences with testing over a span of about one year, would fail - and many, indeed, reported failures in excess of 10 percent and even 25 percent.

Table 32
STANDARD OPERATING PROCEDURES

Function	Percent
Receipt of any warning issues by an authoritative source	87.2
Determination of a suitable response to an emergency situation	85.6
Notification of direction and control personnel to assemble	84.6
Damage assessment	77.5

Questions 116 and 117 sought to obtain the estimates of the percentage of the public that could be effectively alerted within some 30 minutes if "all available means of communications" were used, and thus not merely the siren systems. The first question concerns the percentage estimates of public warning dissemination during "waking hours" which were defined, for this purpose, as the hours between 6:00 AM and midnight. The second probe had to do with "non-waking hours," the hours when by far most people are asleep - between midnight and 6:00 AM.

The views of the EMOs are quite heterogeneous when it comes to public warning capabilities in their jurisdictions during daytime and evening hours. But there is much more of an agreement, on the part of 66.1 percent of the respondents, that fewer than 70 percent of the public could be alerted and warned between midnight and 6:00 AM under current warning system circumstances and even were they to use whatever available means of communication beyond the siren system (the relative failure rate of which makes it quite clearly not a method on which sole reliance could, or should, be placed if and when rapid dissemination of an alerting and/or warning message to the public is necessary.

Table 33

ESTIMATES OF PUBLIC WARNING SYSTEM EFFECTIVENESS

Percent likely to be alerted	Daytime hours	Nighttime hours
85 percent or more	33.0	14.7
70 to 84 percent	31.9	19.2
Less than 70 percent	35.1	66.1

Who, in fact, makes the decision to warn the public? The question (item 115) was asked in an open-ended manner and, indeed, numerous responses were received. But the main patterns are quite discernible and Table 34 provides a summary of the key responses.

But there are other responses as well and some may be somewhat surprising (though such answers may have been given typically by but one or two of the responding EMOs). Apparently, a county judge in one instance, and a jury president in another case decide whether the public should be warned. Some 2.1 percent mentioned that a

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"dispatcher on duty" would make such a decision and various decision making groups were also mentioned here and there (city council, "local officials," "disaster team") though it is, in practice, quite difficult to see how effective, and when needed rapid, public alerting and warning could be disseminated if a group is somehow to render its judgement. Even efforts to consult relevant, say city council, members by phone or in any other way would entail some time delays which could prove altogether problematic in a rapidly evolving emergency situation.

Thus if one takes the responses of the EMOs on their face value, some obvious problems may exist in the process of arriving at a decision to alert or warn the general public.

Table 34

WHO MAKES DECISION TO WARN THE PUBLIC?

Decision maker	Percent
Emergency Management Agency staff	42.4
Chief Executive of City/Township	23.5
Police chief, Police	17.2
County official	11.3
Fire chief	10.3

XIV. EVACUATION

Asked about the frequency with which evacuation capabilities of the jurisdiction get exercised, 8.1 percent of the respondents reported that the question was inapplicable to their work, and a few others, 2.3 percent, did not answer the question so there is no way of determining whether it may have been relevant to their work but they chose not to answer. Table 35 provides data on the responses of those who did answer, 89.6 percent of the sample.

Table 35
EXERCISING EVACUATION CAPABILITIES

Frequency of exercises	Percent
Annually	17.2
Every two years	9.5
Every three years	8.0
Has not been exercised in past three years	65.3

Thus in almost two thirds of the jurisdictions, the evacuation capability was not exercised for more than three years, although almost one in five of the responding EMOs reported annual exercises. Plans to provide evacuation information to the public on a timely basis so that they can take appropriate actions were reported by 78.6 percent of EMOs (and 14.6 percent responded in the negative), and plans to provide for the security of an evacuated area were cited by 72.8 percent of the EMOs (no such plans: 18.9 percent).

Some segments of the nation's population cannot be expected to be able to evacuate on their own - such as school children, hospitalized patients, patients in nursing

EFFECTIVENESS OF EVACUATION PLANS
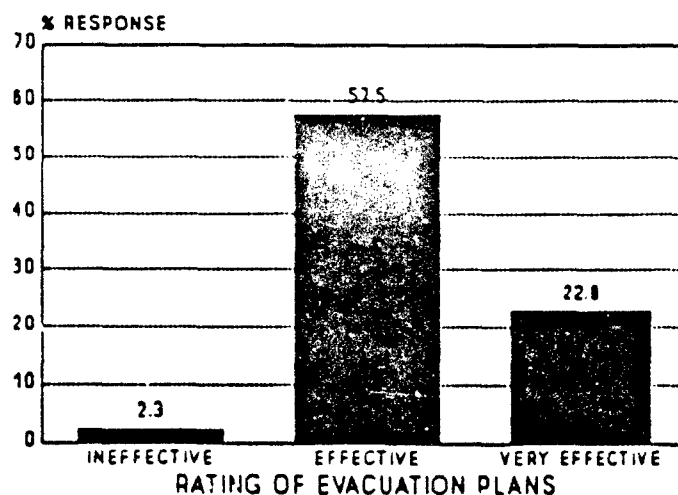
FIGURE 8

homes and, of course, prisoners. Nor can, unaided by others, many of the handicapped take full care of themselves. Special provisions in evacuation planning, and even more so in the process of an actual evacuation, are needed for such groups. It turns out that 63.6 percent of the EMOs reported that adequate plans have been developed "to insure the safety of those groups [in the jurisdiction] that are unable to evacuate on their own;" 27.7 percent reported no such plans. Provisions to identify households that "consist or, include" persons who are blind or deaf or otherwise handicapped exist in 38.3 percent of the jurisdictions, with 54.4 percent reporting no such procedure. And in 36.8 percent actual plans exist to evacuate households consisting of, or including, people with handicaps that would make evacuating on their own either impossible or extremely problematic and difficult. In 11.1 percent of the jurisdictions the plan for the evacuation of such special groups was actually put to use in the course of the past five years. Figure 8 shows that only 2.3 percent of those who did use such evacuation plans consider them to have proven ineffective or very ineffective, while 22.8 percent thought the plans worked

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very well (were "very effective") and 57.5 percent claimed that the plans proved to be

effective though not very effective.

In all:

1. Evacuation capabilities are generally not regularly exercised.

2. By far most jurisdiction provide for assuring security of evacuated areas, and report plans to inform the public on a timely basis to facilitate appropriate public response to an emergency in which evacuation may be necessary.

3. In many jurisdictions, there also exist plans to provide for the safety of such groups as children, hospital and nursing home patients and prisoners - groups that could not be expected to be able to evacuate on their own.

4. When it comes to persons with major handicaps, the majority of the jurisdictions has not developed procedures to identify such households or plans to help in their evacuation.

XV. HAZARDOUS MATERIALS AND RADIOLOGICAL RISKS

A number of questions in the instrument (Questions 127 through 135 most specifically) concern risks associated with hazardous materials and, in turn, possible hazards having to do with radiological peacetime incidents.

Some 58.1 percent of the EMOs reported that their emergency services personnel was adequately trained to cope with incidents involving hazardous materials; 27.5 percent stated that their personnel was not so trained and 12.1 percent answered that such personnel would be available from the State or from other public or private agencies. Table 36 shows the responses to a probe as to whether or not the response personnel, whether local, State or other, would have adequate access to information, equipment or needed protective clothing in the event of an accident involving hazardous or toxic materials.

Table 36
ACCESS TO INFORMATION. EQUIPMENT, CLOTHING

Access	Percent
Technical information about hazardous materials	85.2
Equipment	64.0
Protective clothing	60.0

While only about one half of the jurisdictions reported a capability to detect and assess the degree of exposure of individuals to hazardous or toxic materials, almost three out of four claimed such capabilities with respect to radiological incidents. And, as the

data of _Table 37_ show, the capabilities to provide _treatment_ for potential victims of exposure whether to hazardous (non-radiological) materials or to radiation seem widespread.

Table 37
EXPOSURE DETECTION AND TREATMENT

Hazard	Exposure detection	Treatment
Hazardous/toxic materials	51.6	83.5
Radioactive materials	73.4	75.9

And although some one in five of the jurisdictions do _not_ have a single trained and assigned _radiological_ officer, more than 50 percent of them report _two or more_ such members of the personnel and, in fact, _one in four_ of the respondents stated that there were _five of more_ such officers available as the summary of the data in _Table 38_ clearly shows.

Table 38
TRAINED AND ASSIGNED RADIOLOGICAL OFFICERS

Number of officers	Percent
None	18.1
One	19.0
Two to four	29.3
Five or more	24.1

While the reported numbers of available trained and assigned radiological officers is viewed as altogether _adequate_ by many of the jurisdictions, 63.3 percent, for peacetime radiological hazards, only 10.7 percent considered such personnel numbers to be suffici : for _war-related needs_. But clearly, even when faces with peacetime dangers, the

EMOs in o' 'r 30 percent of the jurisdictions in this study do not consider the numbers of radiological officers to be sufficient to meet the potential needs.

Along these lines, the EMOs were also asked to assess the adequacy or inadequacy of some key factors bearing on radiological protection capabilities. In turn, one question (item 134) concerned peacetime hazards involving radioactive materials, and another dealt with war-related risks. Table 39 sums up the results.

With respect to peacetime events, it shows that close to 60 percent of the jurisdiction reported to have adequate Standard Operating Procedures as well as reporting procedures, while about a third of the respondents viewed these as being less than adequate. The availability of trained and assigned EOC staff to cope with radiological hazards was considered inadequate by somewhat more jurisdiction that those who viewed it adequate. In terms of hazards as they relate to war-related radioactive materials, only minorities of the respondents, in each instance, claimed adequacy of the current state of affairs while majorities saw their situation as less than a desirable one.

Finally: 81.5 percent of the EMOs stated that their jurisdiction has begun to incorporate into their Emergency Response Plans the requirements of Title III of the Superfund Amendments and Reauthorization Act (and 9.9 percent have, at the time of the study, not done so as yet).

Table 39
PROCEDURES BEARING ON RADIOLOGICAL HAZARDS

Peacetime	Adequate	Inadequate
Developed operating procedures	57.1	32.5
Reporting procedures	58.9	30.3
EOC analysis staff,trained	41.2	46.6
War-related		
Radiological equipment	29.7	57.9
Trained monitors	16.3	71.3
Operating procedures	31.3	55.7
Reporting procedures	33.1	53.5

To sum up:

1. Capabilities to deal with both non-radiological hazardous and toxic materials are widespread and there is, on the whole, trained personnel to deal with such dangers as the materials present. But this still does mean that the capabilities of a significant minority of jurisdictions are less than the EMOs would consider adequate.

2. Technical information concerning hazardous and toxic materials appears to be generally quite available, though needed equipment or protective clothing is less accessible than, once again, might be desirable.

3. On the whole, though there are again many exceptions, the personnel capable of addressing problems of radioactive materials seems fairly adequate for peacetime incidents, but woefully inadequate if the nation were to face attack-related problems of radiation.

4. This, too, holds for inadequacies in operating and reporting procedures and equipment availabilities when it comes to war-related hazards. But even in face of peacetime threats of the radiological variety, about a third of the jurisdictions do not feel that their current status of operating or reporting procedures is adequate, and more often than not they are inclined to say that there is also a dearth of EOC staff trained and assigned responsibilities for dealing with radioactive materials hazards.

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XVI. THE THREAT OF NUCLEAR WAR

If the data of Table 40 on the likelihood of war estimates on the part of the EMOs are converted onto a scale from 0 (no war likelihood) to 1.00 (certainty of nuclear war), it turns out that the respondents come up with an aggregate value of .324, thus considering a nuclear confrontation much less likely than likely. The index, in turn, results by assigning (questionable but worthwhile) values to the responses which were qualitative in nature. A value of "1" was given to those who said that a nuclear war was "very likely," and values of .75, .50, .25 and 0 were given to the other responses, with the 0 likelihood value referring to those who said that such a conflict was either "very unlikely" or that it would, in fact, never happen.

But only 1.5 percent of the EMOs chose to say that nuclear war "will never happen," so that it is altogether appropriate to conclude that they consider the chances of a nuclear Soviet-American confrontation to be low but that such a conflagration does remain within the realm of realistic possibilities. Furthermore, the modal response (of 40.4 percent of the respondents) gives an estimate of nuclear war prospects as unlikely - but, indeed, not very unlikely. By contrast also, of course, only rather few of the respondents, 3.0 percent in all, believe that such a conflict is "very likely," and some 7.0 percent see it as "likely."

The remaining respondents (since the tabulated percentages do not add up to 100) were "unsure" how to answer the question, and a few, 0.8 percent, simply preferred not to answer at all.

Table 40

LIKELIHOOD OF NUCLEAR WAR

Likelihood	Percent
Very likely	3.0
Likely	7.3
About 50-50 chance	23.5
Unlikely	40.4
Very unlikely	18.1
Never will happen	1.5

As shown in Figure 7 many of the EMOs, 37.6 percent of them, think that a nuclear war, should it ever come about, would start in the process of major deteriorating international conditions, and thus after "some period of extreme tensions" (as the wording of the item stipulated). This is, of course, an "escalation theory" of the possible onset of a nuclear conflagration and it implies, if indirectly, that the nation would be, or become, increasingly aware that the international conditions are getting worse and worse and that they could, in fact, "get out of hand" and that a war could result. But 8.6 percent of the responding EMOs believe that an "attack out of the blue," a sudden, surprise attack on the United States is the most probable way in which a war, should it ever occur, would start.

Most important of all: 47.5 percent of the respondents are convinced that a nuclear conflict could start "either way" - that is, as a sudden, "out of the blue," attack or as a climax of worsening international tensions. This is, without doubt, a very significant finding because it would suggest that many, if not most, EMOs would not tend to be strong supporters of programs that put their eggs into the single proverbial basket: hence, a possible strategic evacuation program makes sense only to the extent to which there

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THEORIES OF
NUCLEAR WAR BEGINNINGS

ESCALATION THEORY
37.6

OUT OF BLUE THEORY
8.6

EITHER WAY
47.5
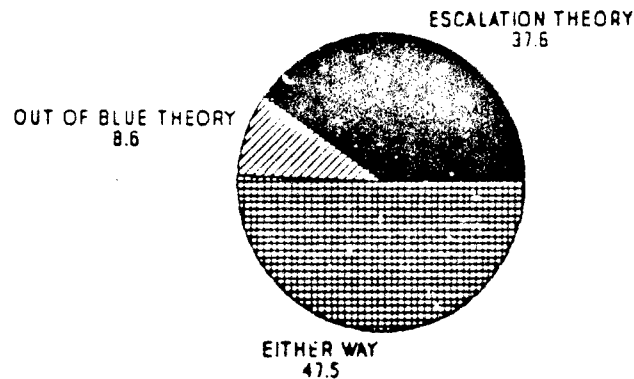
FIGURE 7

could be warning time (and a decision to act) in which evacuation is feasible - and an "out of the blue attack" perspectives does not map onto such programs very well.

The responses of the EMOs thus provide a clue to some reluctance that many may feel or have felt were the nation committed to essentially _only_ an evacuation (of high risk areas) planning without provisions for _in-place_ protection of some sort which would be the sole way of enhancing survival prospects under the sudden attack conditions. There is, to be sure, a call for a _balanced_ or _mixed_ type of effort on the attack preparedness front.

This all is underscored by the perception of the EMOs about the likely _warning time_ that would be effectively available in an impending war environment. _Table 41_ sums up the responses of these emergency managers and it shows that most of them think at best in terms of hours of warning time (or, at best, of one day's warning).

Very few, indeed, subscribe to the notion that there might be more than three days of warning time (3.5 percent) so that plans which entail the possibility of strategic

evacuation over a three day period of tensions in which war seemed imminent do not appear to be altogether credible to the EMOs.

In this same context then, strategies of the _surge_ variety also may not ring true to the EMOs who would have to explain them to their local and county officials, media representatives as well as to the general public. If, in fact, only a few hours of warning would be available - and the EMOs, 67.7 percent of them, believe that a few hours _at best_ would be so available - there is very little in the way of last minute "surging" or mobilization that could be achieved.

Table 41

VIEWS ON WARNING TIME

Warning time	Percent
None	7.9
Minutes	39.2
Hours	20.6
About a day	3.2
Two or three days	7.2
Four days to about a week	3.5
A week or more	6.4

More than 64 percent (64.7 percent) of the EMOs say that they function in an area which is in "high" or "medium" danger of being a target. Only 5.8 percent thought that their area was "in no danger at all" (and 0.8 percent, in all, chose to skip the question). Table 42 shows the basic distribution, but it does not present data based on NAPD estimates of target areas so that it would be readily possible to determine whether some of the EMOs underestimate, or possibly overestimate, the target danger to their jurisdictional area.

Table 42

TARGET RISK PERCEPTIONS

Danger level	Percent
High danger	41.4
Medium danger	23.3
Low danger	28.5
No danger at all	5.8

The EMOs who said that their jurisdictional area was in "high" or "medium" danger of being a target in the event of a nuclear attack on the United States were also asked (Question 143) what it was about their area that made it a likely target. Eight options were provided and the respondents were asked to mark "all that apply." Overall then, 65.1 percent of all respondents answered this probe, and the data in Table 43 are based on this cohort of EMOs. The results show, of course, that the presence of military facilities would be one of the keys to the perception of enemy targeting, but also metropolitan areas and the industrial floor space are seen as important targets. The presence of military arsenals, or the fact that an area might be an important political center are considered much less crucial as likely targets.

Now, of course, the EMOs were asked to identify any and all of the suggested factors that would bear on their idea being a likely target. It turns out, that 14.9 percent of them had identified military facilities as the determining factor; 6.6 percent thought that the area's being a metropolitan one was the key to the adversary's targeting plans and 3.9 percent mentioned both military facilities and metropolitan context as relevant. Industrial floor space and metropolitan area responses characterized 3.8 percent of the EMOs, while 2.9 percent chose to say that the reason for their area being a target was

Table 43

WHAT MAKES AN AREA A TARGET ?

Factor	Percent
Military facility	55.8
Metropolitan area	52.2
Industry	45.3
Transportation center	28.4
Nuclear power plant	23.6
Electric power facility	22.7
Political center	11.4
Arsenal	·10.8

that it was a metropolitan area, that there were military facilities thereabout, that it was an industrial and transportation center. Some 2.7 percent thought of the target threat in terms of the metropolitan character of the area, of the industrial might and of the transportation hub facilities of the area.

In summary terms:

1. Nuclear war remains possible though it is seen as unlikely.

2. Most of the EMOs believe that, should it ever happen, a war could come about either in a sudden attack or as a climax of the dynamic of worsening international tensions.

3 Thus, it would seem, population protection strategies which would be based on either single premise ("out of the blue attack" or "escalation theory attack") are less credible than would be strategies which do not, ex ante, lock the nation into a particular form of nuclear war onset.

4. The same concern emerges when it comes to perceptions of available warning time: by far most of the EMOs do not think that there would be more than a few hours of warning time so that population protection strategies based predominantly on the premise of a warning time of several days do not seem all too credible to the EMOs.

5. Most , and rightly so, consider their jurisdictions to be likely targets in the event of a nuclear confrontation, and the key reasons, as seen by the responderits, involve military facilities in the area, the industrial floor space, transportation centralities and, of course, the fact that the area is a metropolitan one (in which, or in the vicinity of which, most of the "other" targetable facilities tend to be located anyway).

XVII. IN-PLACE PROTECTION

In so far as the possibility of a nuclear confrontation remains, and the EMOs - save for 1.5 percent of them - do consider such a conflict within the realm of possibilities indeed, central questions are posed as to the ways in which our people could be protected. Apart from possible active defense systems, whether of the point-defense (ABM-type) variety or of the area-defense potential (embedded in the SDI research and development efforts), passive measures are an option and these, in turn, need be seen as complementary to whatever active defense systems rather than as an alternative to them and so must active defenses be seen as complementary to prudent passive defense measures.

How well (in terms of survivability) any such, active or passive, defense systems would perform is clearly open to question and to wide-ranging interpretations. But it would not seem an exaggeration of any kind to conclude that the nation would be, in the event of a conflict, better off with, than without, programs to protect the public as best may be possible within budgetary and policy constraints that exist and are likely to persist. Since any programs of blast sheltering (to attenuate even the primary weapons effects) are clearly not in the cards, were it not for fundamental policy disagreements over such issues then simply due to associated cost factors, fallout protection looms like the central option of the "in-place" class of programs.

Most of the EMOs believe that a nuclear war could well start in the way of a sudden attack and warning time in which to act would be altogether too brief, the data imply that a strategy to evacuate or relocate people from high risk areas in the midst of

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a worsening international crisis is, when considered by itself alone, not quite as credible as a strategy which makes some realistic provisions to evacuate if evacuation proved feasible and to provide for such in-place fallout protection as possible should the "out-of-the-blue" attack scenario come to be realized.

It has already been shown that majorities of the respondents did not think that capabilities to cope with possible war-time radiological hazards in their jurisdictions were adequate: 71.3 percent had mentioned dearth of radiological monitors, 55.7 percent thought that operating procedures were rather inadequate, 57.9 percent said the same thing about necessary equipment and 53.5 percent reported inadequate reporting procedures that have been developed in face of possible war-like emergencies.

While the data of Table 44 show that many (65.4 percent) believed that personnel to manage health care facilities would prove adequate, and 54.5 percent stated the same about personnel to manage such lodging facilities as would be needed, only a little more than one third of the EMOs reported arrangements to provide an adequate number of personnel to manage protective facilities, that is, fallout shelters. In a surge environment, mobilization (and rapid, if minimal, training) of personnel would seem altogether feasible, at least in principle in as much as the nation would not hesitate to use whatever financial and other resources necessary under such postulated conditions of an impending threat. But in a sudden attack environment, which many EMOs views possible indeed, there would clearly have to be a great deal of improvisation but even that might prove to be of some benefit.

The domains in which majorities (Table 44) reported "adequate" provisions for personnel management (health care and lodging) of course, have also direct relevancy

to peacetime hazards so that the relative frequency of such arrangements is not surprising - rather, the fact that in some jurisdictions even these two areas of activities may be problematic is more of a surprise.

Table 44

ARRANGEMENTS FOR ADEQUATE PERSONNEL

To manage	Percent
Health care facilities	65.4
Lodging facilities	54.5
Protective (shelter) facilities	34.9

About one third of the respondents only claimed planning for war-time population protection along several axes of action. The results, in response to Question 144, are summarized in Table 45 and could be easily interpreted as suggesting rather low levels of national attack preparedness in terms of in-place protection, a level which, in turn, reflects the low level of Congressional financial support for such programs, and thus their less than enthusiastic acceptance at the local levels where such efforts have to be implemented in the first place.

It has been already noted that almost half of the respondents did not know whether their EOC or a direction and control facility provided any protection against fallout or what the protection factor might be. And, to repeat, the availability of trained radiological monitors for a war-time emergency is altogether quite limited as well.

The EMOs were asked (Question 136) whether their jurisdiction "established monitoring and reporting locations with a protection factor of PF 40 or better for use in the event of a war-related radiological emergency." Table 46 shows, of course, that no such

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provisions have been made in half of the jurisdictions and only about one in ten of the respondents thought that adequate provisions to meet the need may have been made.

Table 45

WAR-RELATED POPULATION PROTECTION PLANNING

Plans for	Percent
Using expedient shelter	35.9
Using substandard shelter (PF<40)	33.8
Shelter stays up to 14 days	33.0
Using upgradeable shelters	32.7
Overloading existing shelters	23.8

Table 46

PROTECTED MONITORING AND REPORTING LOCATIONS

Locations	Percent
Adequate to meet the needs	11.5
Some established, but not enough	39.0
None	49.5

Finally, as the data in Table 47 show, almost three out of four of the respondents favor a "proposal to develop a network of fallout-protected control centers (EOCs) from which local officials would direct emergency operations and would provide survival information to be broadcast to the public." In some ways, of course, it may be even puzzling why some 2.3 percent would "strongly disapprove" and another 4.2 percent "disapprove" such a program.

Table 47
PROGRAM FOR FALLOUT-PROTECTED EOCs

	Percent
Strongly approve	39.5
Approve	34.2
Unsure	18.3
Disapprove	4.2
Strongly disapprove	2.3

The basic pattern of the data then reveals less than an adequate level of attack-related capabilities as perceived by the EMOs themselves. There is no indication that this would be a by-product of negative, if not cynical, views on the possibilities of passive defense measures; rather, it is suggestive of the more than modest priority attached to civil defense programs in their war-related modality at the national level, best and foremost reflected in reluctant and quite minimal Congressional appropriations of needed funds.

Yet, this simple summary of the findings with regard to in-place protection programs does not do justice to the issue and further analysis is obviously necessary. If reasonably adequate provisions exist predominantly in jurisdictions not likely to be targeted, it may make good sense since fallout protection programs in high (and even medium) risk areas would be of value only to a small percentage of possible survivors of an attack if people stayed in place rather than did, or had an opportunity to, evacuate to "safer" areas.

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XVIII. EVACUATION

If our people, at least most of them, were in areas unlikely to be targets in the event of a nuclear war, it is not difficult to argue that their survival prospects would be better than if they were, or stayed, in high risk locations. It is, indeed, this very type of conceptualization that underlies the idea of crisis relocation or evacuation. But, of course, such a measure is feasible only if there were strategic warning and, therefore, if a nuclear conflict could be anticipated in the course of events marking sharply deteriorating international conditions. It is then this class of scenaria which suggests the advisability of evacuation planning for high risk areas of the country and many EMOs believe that a nuclear confrontation would, indeed, come about in the process of escalation of an international crisis: though they also, as has been reported, do not rule out the possibility of an "out-of-the-blue" strike for which relocation strategies do not provide a viable option.

Media reports concerning the crisis and eventually reports, not unlikely at all, that the Soviets have initiated evacuation of their high risk areas might well serve as a trigger to motivate some, and even many, people to evacuate on their own, spontaneously. Such a process would, without doubt, be further reinforced were the media also to report that the President is considering recommending evacuation in that many people would prefer to avoid the possible confusion of a directed evacuation should the President urge it and the respective Governors also act on the White House recommendation.

The EMOs in this study do not think that a spontaneous outflow of people from their areas would be of truly major proportions. Table 48 shows that almost half of the

respondents are convinced that at most 20 percent of the people in their area would tend evacuate on the basis of their own decision.

Table 48

EXPECTED SPONTANEOUS EVACUATION

Likely to evacuate	Percent
20 percent or fewer	48.8
21 to 50 percent	26.3
51 to 70 percent	6.1
More than 70 percent	2.0

In fact, 31.8 percent of the respondents thought that fewer than 10 percent would be likely to evacuate spontaneously. When actual experiences with natural disasters (hurricanes and the like) or technological hazards (such as the TMI incident) are considered along with the general public's statements and claims regarding likelihood of spontaneous evacuation under a threat of an imminent nuclear confrontation the EMOs greatly underestimate the most probable actual public response to a situation in which nuclear war represents a real threat. And many, some 16.8 percent, of the EMOs were sufficiently unsure to provide any guesstimate at all.

But these data, of course, mask the fact that there are areas of the country which one would not want to see evacuating: the jurisdictions which can be considered at low risk of being targets, the jurisdictions which could come to serve as host areas for both spontaneous evacuees as well as for those who would evacuate only following a Presidential action. Table 49 elaborates the data of Table 48 by the risk level as perceived by the EMOs.

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Table 49

EXPECTED SPONTANEOUS EVACUATION BY TARGET DANGER

Likely to evacuate	High	Medium	Low	None
20 percent or fewer	45.1	45.5	53.3	68.2
21 to 50 percent	28.1	30.1	24.4	10.4
51 to 70 percent	8.2	5.5	4.1	3.7
71 percent or more	2.7	2.0	0.7	3.0

Thus, logically enough, the expectations regarding spontaneous outflows of people are higher the higher the perceived target risk in the area. Even so, some evacuation is anticipated even in areas which the EMOs defined as being in "no danger" at all, jurisdictions involving 5.8 percent of the respondents.

Spontaneous evacuation, to be sure, presents some opportunities as it creates serious difficulties as well. A spontaneous outflow of people from higher risk areas would certainly help to render directed evacuation, were it to follow, somewhat easier. It would also increase the feasibility of eventually evacuating even those areas of the country, such as the New York City Metropolitan Area and the Los Angeles basin, which would be difficult, if not impossible, to evacuate even in a three day period, a time on which crisis relocation thinking has been predicated.

But it would, at the same time, negatively affect the daily rhythm of the nation's economic life and if a crisis were to subside and no directed evacuation were called for (whether because of the crisis being resolved or because the President would choose not to recommend evacuation regardless of the circumstances), the social and economic cost could be quite high. It, too, might present some problems in potential host areas since

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it cannot be expected that evacuees would distribute themselves in lower risk areas somehow evenly or that their movements would be compatible with such evacuation plans as may be activated in a directed relocation process. The EMOs were asked:

"If in the midst of an international crisis members of the public would get in touch with you, would you encourage them to evacuate on their own (that is, spontaneously), discourage spontaneous evacuation, or make it clear that it is entirely up to them ?"

The respondents were also asked whether it should be national policy to encourage or discourage spontaneous evacuation or let it evolve whichever way it might. Clearly, this is not an issue of the Federal Government telling people to evacuate or not to evacuate on their own and of their own volition but rather a policy which would make it easier for local and county emergency managers to respond to such public questions by being able to refer to a national view on the matter rather than to have to improvise on their own (and be subsequently blamed for having, possibly, made the wrong recommendation: not to evacuate if subsequently evacuation were called for, or to evacuate if no directed evacuation were to occur thereafter, or, of course, not to make a recommendation one way or another and appear indecisive or even uninformed). Table 50 provides a summary of the responses.

Table 50
DEALING WITH SPONTANEOUS EVACUATION

Spontaneous evacuation	Recommendation	National policy
Encourage	24.1	25.2
Not encourage, not discourage	38.6	29.9
Discourage	18.0	18.9
Not su e	18.0	26.0

The opinions of the EMOs are thus quite divided on these issues, and many of them (26.0 percent) preferred not to commit themselves to any of the offered options, especially with regard to the need for national policy concerning spontaneous evacuation. The pluralities in each instance, favor neither encouraging nor discouraging spontaneous evacuation while, among the remaining respondents, a few percent more favor encouraging such outflows than support the idea of discouraging them.

There are also no sharp differences as a function of the target danger perception. But a few more EMOs in the high and medium risk areas would tend to encourage more than discourage spontaneous evacuation while in the low or "no danger" jurisdictions, more of the respondents would discourage rather than encourage the process, but pluralities, regardless of perceived target danger, favor letting spontaneous evacuation take its own course without being either discouraged or encouraged by the emergency management system. Plans to facilitate directed evacuation are generally favored as is seen from the data of Table 51.

Table 51
NEED FOR EVACUATION PLANS

| Need for plans | Target danger | | | | Total |
	High	Medium	Low	None	Sample
Definitely yes	26.0	23.3	29.9	28.9	26.5
Probably yes	29.5	37.7	35.1	25.2	32.8
Unsure	17.9	19.5	14.9	23.7	17.7
Probably no	19.1	14.8	12.6	12.6	15.7
Definitely no	7.0	4.4	6.3	8.1	6.5

In fact, the EMOs in high and medium risk areas tend to be somewhat less in favor of relocation planning than are respondents from lower risk jurisdictions, and those in high target danger areas (41.4 percent of all) are more often disinclined to favor such planning than are the EMOs in the other risk categories. In part, at least, this is accounted for by the fact that the EMOs in the riskiest jurisdictions are more likely to be convinced that there simply would not be enough time in which to evacuate were such an action taken.

Table 52 indicates that 43.4 percent of the respondents in the sample thought that there "probably" or "definitely" would not be enough time for directed evacuation, whereas in the high target danger areas, 53.6 percent of the respondents held this view.

Table 52
AVAILABILITY OF TIME TO EVACUATE

| Time to evacuate | Target danger | | | | Total |
	High	Medium	Low	None	Sample
Definitely yes	1.5	1.1	1.9	6.7	1.8
Probably yes	21.0	24.6	29.7	33.3	25.1
Unsure	23.0	37.0	30.5	23.0	28.2
Probably no	44.3	33.2	32.9	24.4	37.1
Definitely no	9.3	3.8	3.4	9.6	6.3

The pattern of the data is further underscored by responses to the question which requested the EMOs to estimate the time it would take to evacuate. In the high target danger areas, 27.3 percent of the respondents expressed the view that a directed evacuation of their jurisdictions would take more than three days, a percentage which was but 12.6 percent in the low and perceived "no danger" areas. In the sample as a

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whole, 19.1 percent fell into this category of respondents, that is those who did not believe that an evacuation could be accomplished in three days or less.

In general, as the data of Figure 8 show, the median evacuation time tends to be longer the higher the perceived target risk to the area so that the responses concerning availability of sufficient evacuation time also reflect this underlying, though not really surprising, pattern.

MEDIAN EVACUATION TIME

FIGURE 8
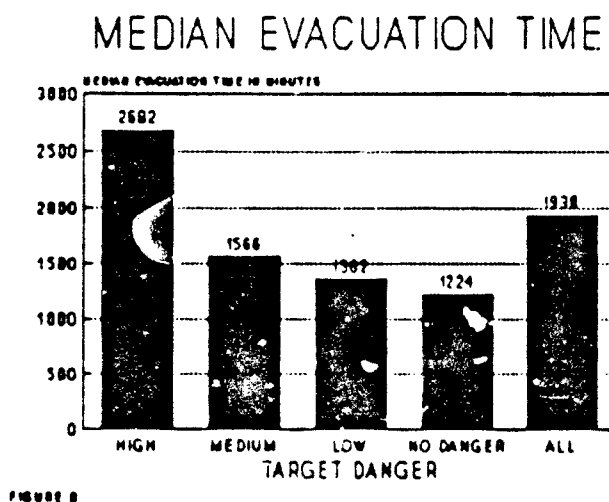
Furthermore, a majority of the EMOs, 53.2 percent of them, indicate that less than half of the people in their jurisdiction would actually evacuate or be able to evacuate, and only 13.4 percent place the percentage at 75 percent or more. And many, 10.3 percent, did not venture a guess.

Table 53

PERCENT OF PEOPLE LIKELY TO EVACUATE

Percent evacuation	Percent
Not more than 25 percent	22.0
25 to 50 percent	31.2
51 to 75 percent	23.0
More than 75 percent, not all	13.1
100 percent, all	0.3

While in the high risk areas 15.2 percent believed that 75 percent or more would, or could, evacuate (compared with the 13.1 percent of the sample as a whole), 49.6 percent (contrasted with the sample percentage of 53.2) also expressed the view that less than 50 percent of people in their jurisdictions would evacuate. But most EMOs are convinced that there could, indeed, exist some situations in which the President could, and would, urge evacuation of high areas likely to be targeted.

Table 54

POSSIBILITY OF PRESIDENTIAL RECOMMENDATION TO EVACUATE

Possible Presidential Action	Target danger				Total Sample
	High	Medium	Low	None	
Definitely yes	17.0	15.8	19.1	22.2	17.5
Probably yes	43.7	50.1	48.4	37.0	46.2
Unsure	19.7	16.8	18.2	20.0	18.4
Probably no	17.6	15.8	11.2	17.8	15.2
Definitely no	1.6	0.9	1.6	1.5	1.5

Thus 63.7 percent of the EMOs consider it possible that there might exist circumstances under which the President would urge a directed evacuation (or, of course,

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in the absence of evacuation plans, such spontaneous outflows as would occur) while 16.7 percent believe this to be unlikely regardless of the situation. Along with those who perceived their area to be at no risk of being targeted, the EMOs from high risk areas were more likely than others to say that a Presidential recommendation to evacuate was unlikely under any circumstances, but the differences in terms of perceived target danger are generally quite modest.

The main views of the EMOs on evacuation as an option to in-place protection (with the understanding that, in many host locations, fallout protection would also somehow have to be provided to enhance survival chances if the crisis were to lead to an actual fighting war) may be summarized:

1. The EMOs do not expect dramatic outflows of people from their jurisdictional areas in the way of a spontaneous evacuation. But clearly, even if some 20 or so percent of people were to evacuate spontaneously, this would be a significant factor in directed evacuation planning.

2. The respondents are quite divided when it comes to raising the question as to whether they would or would not encourage spontaneous evacuation and what the national policy in this respect ought to be. A modest plurality favors a neutral position - to let spontaneous evacuation take its own course and for the national Government neither to endorse nor dampen the process.

3. They favor evacuation planning but many are not convinced of the worthwhileness of the exercise. This is, it appears, mainly due to the fact that they believe that there would not be sufficient warning time to carry out a directed evacuation and, in fact, the exercise would tend to take more time the higher the target danger to the area so that it would limit its effectiveness.

4. The EMOs are also not particularly sanguine about the numbers of people in their jurisdiction who would, or could, evacuate. Relatively few, considering the magnitude of the threat, believe that more than three out of four people in their areas would actually evacuate.

5. At the same time, they tend to think it likely that, under extreme circumstances, the President would urge people to abandon nigh risk areas so while they implicitly question the effectiveness of the strategy,

they also do support evacuation planning despite the problems that seem to them embedded in such a strategy.

6. When all such data are coupled with the finding that a good majority of the EMOs believe that a nuclear war could come about in a sudden outburst as well as in the climax of a dynamic of an escalating international crisis, it seems rather obvious that a single, or even heavily dominant, strategy of protecting our people by planning for strategic evacuation (and the management of the evacuees thereafter) is not as credible to the EMOs as might be a mixed strategy which would provide such in-place protection as may be possible and also to plan for directed evacuation.

XIX. HELPING EVACUEES

To what extent might possible evacuees find help in the respective host communities? Three items in the questionnaire probe into the estimates of the EMOs in this regard. Question 157 asked whether host community residents would be helpful or not and it referred to the jurisdiction of the respondents should it serve as a host community if evacuation in face of an impending conflict were to take place. The second item, Question 158 solicited the view of the EMOs as to whether people in their jurisdiction would likely provide housing for evacuees, and the third item, Question 159 raised the possibility of local Government asking the residents to take in evacuees into their homes.

The data of Table 55 show that by far many of the EMOs do expect helping behavior on the part of residents of their communities. This is so with respect to general helpfulness as well as in terms of the prospects that many, if not all, evacuees could find haven in private homes of the residents.

In one sense, the findings can be interpreted as estimates of probable behavior of the residents in jurisdictions of the responding EMOs. In another sense, and perhaps even a deeper one, the results provide a kind of description of the communities as seen by the EMOs in terms of altruism of the residents. Thus they, in some measure, also may well reflect the attitudes of the EMOs to the people in their community whatever the source of such perceptions - most of which would tend to be born of actual experiences whether under emergency conditions or otherwise.

Table 55
COMMUNITY HELPFULNESS TO POSSIBLE EVACUEES

	General Helpfulness	Providing Housing
Definitely yes	19.7	5.9
Probably yes	50.7	38.6
Unsure	15.9	32.7
Probably no	10.3	19.2
Definitely no	2.3	2.2

The EMOs are thus somewhat less sanguine about the housing possibilities than they are about general patterns of helping. Almost a third of them are simply not sure whether or not community residents would be willing to take evacuees into their homes though over 44 percent of them said that they probably or definitely would do so. But, of course, the questions vary in their applicability as a function of the kind of risk to which the jurisdictions are likely to be expected.

In high risk as well as medium risk communities, it is not very probable that there would be evacuees to take care of: it is, in fact, precisely these areas that would serve as the source of evacuees rather than as host ng communities. Thus even at this level of analysis, the target danger issue cannot be totally disregarded simply because some jurisdictions cannot be realistically expected to function as host communities - they are precisely the jurisdictions likely to have to be evacuated.

In the tabulation, the response category "helpful" includes those respondents who stated that people in the community would be "definitely" or "probably" helpful. By contrast, those who thought the community would "definitely" or "probably not" be helpful were placed into the "not helpful" category, as shown in Table 56. In a similar vein, the

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EMOs who "definitely" or "probably" expected that local residents would provide housing for evacuees fell into the "would provide" group, while those with the opposite views were collapsed into the "not providing housing" category.

<div align="center">Table 56</div>

<div align="center">HELPFULNESS TO EVACUEES BY TARGET DANGER</div>

General helpfulness	High	Medium	Low	None
		Target danger		
Helpful	65.3	73.4	75.4	75.5
Unsure	17.6	16.6	13.2	12.6
Not helpful	15.8	9.6	10.9	10.3
Providing housing				
Would provide	38.1	48.6	50.6	48.9
Unsure	34.2	33.7	29.7	31.9
Not providing housing	26.1	17.3	18.9	17.1

The lower the perceived target danger the higher the expected level of helpfulness. And in terms of the possibility of the evacuees being offered or finding private accommodations rather than having to rely on congregate care such as may be provided, only the high risk jurisdictions differ from others in a significant manner but these are, to repeat, jurisdictions that would quite certainly have to be evacuated instead of becoming potential host areas.

Almost twice as many of the EMOs, for each target danger level, are unsure about the housing prospects than they are about the community's helping behavior. Expectations that private housing would not be available are also higher, by a factor of about 1.7, then are estimates of more general helpfulness to evacuees.

<div align="center">111</div>

Yet, even the lowest estimates of perceived willingness to accommodate evacuees in private homes would amount to a very high proportion of evacuees and any such outcome would amount to easing the pressures on congregate facilities: even under the worst conditions one might be inclined to conclude that it would prove unnecessary, in the redundancy sense, to assume the need for congregate facilities for all evacuees and this alone could make the necessary planning easier and less problematic.

In any event, three out of four respondents thought that "the local government should issue an appeal to have area residents temporarily house evacuees." One in ten of the EMOs did not think so, though only 2.6 percent expressed themselves in a definitive statement along these lines.

A mail-out survey, by its very nature, makes it impossible to determine how many, if any at all, of the EMOs may have been looking at the questionnaire as a whole first of all, or, perhaps, glancing at sequences of questions. Thus it cannot be ascertained whether the prior response (Question 158) about private housing for evacuees was not, to some degree, affected by the respondent's reaction to the follow-up item - that is, whether such helping behavior was estimated on the premise that local government might appeal to the public for evacuee housing provisions, or whether such estimates were, so to say, independent of possible government appeals and such appeals might enhance the general, already high, willingness to help the evacuees.

Table 57

LOCAL APPEAL TO HOUSE EVACUEES IN PRIVATE HOMES

Should government appeal?	Percent
Definitely yes	24.2
Probably yes	51.0
Unsure	13.2
Probably no	7.6
Definitely no	2.6

Regardless of perceived target danger, the idea of local government encouraging housing help to evacuees is heavily favored:

In high danger areas, 71.8 percent favor it;

In medium danger areas, the percentage is 75.6;

In perceived low danger areas, 78.5 percent; and

In perceived no danger areas, 78.6 percent.

Thus in the jurisdictions most likely to serve as host communities in the first place, nearly eight out of ten of the EMOs support the notion that local government should appeal to the public to provide temporary housing for such evacuees as may flow into the community. In all then:

1. The EMOs are convinced that people in their community, should it serve as an host for potential evacuees, would be helpful.

2. Fewer, but still many, believe that people in their jurisdiction would house evacuees, and quite a few are unsure but only a minority expect that such a public response should not be expected.

3. The expectations of helpfulness are greatest precisely in the kinds of jurisdictions that might serve as hosts - the jurisdictions at low risk.

4. The respondents favor the idea of a local government's appeal to residents to house evacuees and especially, once again, in the communities most likely to experience an influx of possible evacuees.

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XX. SURVIVAL

As in studies of the perceptions of the general public, several questions were included in the instrument to tap the views of the EMOs on possible survivability of a nuclear assault on the United States. The "benchmark" item refers to prospects for survival if a nuclear war were to start "next week." For convenience, this "next week's war" will be referred to as NWW hereafter. The respondents were then asked to estimate survival chances if people were in blast shelters, in fallout shelters, evacuated, and protected in fallout shelters while evacuated.

A scale from 0 to 5 was used with the zero scale point defined as "no chance of survival," and the other end point as "very good chance" of survival. For the purposes of this analysis, the scale categories have been simplified into a trichotomy: responses involving scale values of 0 and 1 are labelled "poor" survival chances. Responses in the middle two categories, 2 and 3, are categorized as "medium" survival chances, while answers of the 4 and 5 variety on the scale refer to "good" survival prospects. A simple survivability index was also used. In it, the responses from 0 to 5 on the scale are assigned "survival likelihood" values of 0, .2, .4, .6, .8 and 1. Thus were all EMOs to assert that there was "no chance of survival," the index would have a value of 0 (zero) survival likelihood. And the value would be 1 (one) if all agreed that survival prospects were "very good." The higher the index value then, the higher the survivability estimate of the respondents for a given posture. Table 58 presents the basic data for the NWW ("next week's war") possibility.

If the danger of a nuclear war "next week" seemed very high in light of a deepening international crisis, many surge type activities to help protect our people at the last moment, so to say, could have some, even significant, payoff. But the wording of the question does not imply the situation of this kind. Rather, it implies, at least to most respondents, the onset of war "next week" so that the nation would essentially have to cope with it at such a level of preparedness as may exist at the time. The tabulated percentages do not add up to 100 percent since 9.6 percent of the EMOs did not venture to estimate survival chances in the event of NWW and did not answer the question.

Table 58

SURVIVABILITY OF "NEXT WEEK'S WAR"

Survivability	Percent
Poor	37.2
Medium	40.5
Good	12.7
Survivability index	.402

When the target danger variable is taken into account, the aggregate percentages of Table 58 are altered rather drastically. Table 59 shows that only 4.3 percent of the EMOs in perceived high risk areas believed that survival chances in NWW were "good" or "very good" (the "good" survival category), while 38.8 percent in the no danger jurisdictions gave the same response, a variation in the estimates by a factor of 9 (nine)

Table 59

NWW'S SURVIVAL PROSPECTS BY TARGET DANGER

Target danger	Survival prospects		
	Poor	Medium	Good
High	55.9	32.6	4.3
Medium	30.3	47.4	10.1
Low	19.7	48.2	21.8
No danger	16.4	32.1	38.8

Thus <u>the higher the target danger perception, the lower the survivability estimate and the higher the "poor" prospects for survival as shown in Figure 9</u>. Now if, for purposes of simplification, a national population of 240,000,000 is assumed and the distribution of

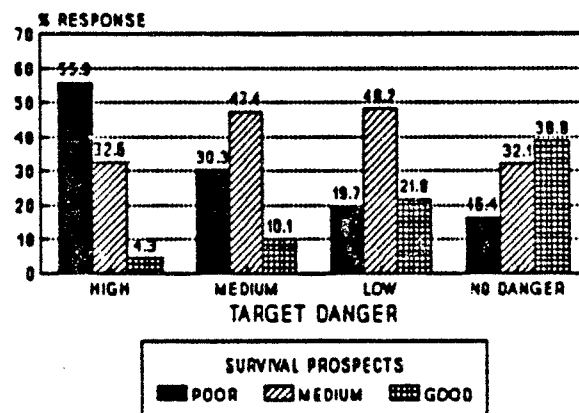NWW'S SURVIVAL PROSPECTS

FIGURE 9

jurisdictions by target danger <u>as seen by the EMOs</u> is used, the <u>Table 60</u> (informed by the judgements of the EMOs but, in this analysis, not by actual risk estimates as in NAPD

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-92) shows the approximate numbers of people in each target area, and the estimated survival in the event of a "next week's war." This is, of course, a way of applying weights to the data of Table 59 because many more people live in high and medium risk areas than do in low or "no danger" jurisdictions - at least as seen by the responding emergency management personnel.

Table 60
POPULATION BY TARGET AREAS AND BY SURVIVAL ESTIMATES

Target danger	Population	NWW Survival
High	100,560,000	4,324,080
Medium	56,880,000	5,744,880
Low	68,640,000	16,336,320
No danger	13,920,000	5,400,960

Given the simple assumptions (of a base of population of about 240,000,000 and that the EMOs judgments reflect the approximate level of risk to their jurisdictions), the data mean, of course, that

* 1 percent enhancement of survivability in high danger areas amounts to an additional 1,005,600 people;

* in medium risk areas, such an improvement comes to 568,000 "added survivors" as contrasted with the perceived NWW situation;

* in low danger jurisdictions, it is 686,400 people;

* and in the no danc   areas, 139,200.

The effects on in-place posture: on survival, as estimated by the EMOs, are shown in Table 61. The data clearly indicate that fallout shelters as such have a relatively lower payoff in enhanced survivab "ity than would blast sheltering and this is, of course, in no way a surprising result. Bu even the incr. ased survivability "if people were in fallout

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shelters" amounts to a significant shift upward when the data are compared with NWW results of Tables 58 and 59.

Table 61
SURVIVAL PROSPECTS UNDER IN-PLACE POSTURES

	Target danger			
Survival prospects	High	Medium	Low	None
BLAST SHELTERS				
Poor	22.3	12.2	7.7	12.2
Medium	38.4	30.0	24.8	14.5
Good	31.4	48.1	59.8	65.6
FALLOUT SHELTERS				
Poor	33.2	13.6	9.8	9.2
Medium	47.9	48.8	37.3	25.4
Good	12.8	29.7	45.7	56.2

A ratio of a given posture (blast or fallout sheltering) against the NWW data for "good" survival chances indicates the factors by which such measures for protecting the nation's population would alter the survival likelihood. Obviously, factor values in excess of 1 signify enhancement of survivability, while values below 1, if such were found, would say the opposite. An exact value of 1 would suggest no improvement in survival chances as a consequence of a given civil defense posture. For the target danger levels, the factor values are given in Table 62 and the results show that the higher the target danger the higher the enhancement of survivability.

The table then shows, for example, that in the high risk areas, 7.3 times as many people might have "good" or better prospects for survival if they were in blast shelters, while 3 times as many would have such survival chances if people were in fallout shelters

than under conditions of a "next week's war." This then can be seen as the payoff of in-place protection systems in survivability terms as seen by the EMOs.

Table 62

SURVIVABILITY ENHANCEMENT BY IN-PLACE PROTECTION

	Enhancement Factor	
Target danger	Blast shelters	Fallout shelters
High	7.3	3.0
Medium	4.8	2.9
Low	2.7	2.1
No danger	1.7	1.4

The effects, surmised by the EMOs, of evacuation of higher risk areas on survivability are displayed in Table 63. When the question refers to evacuation as well as fallout sheltering of evacuees, the posture is clearly seen as superior to a situation in which only evacuation as such is mentioned. Yet, both evacuation options produce higher survivability estimates than do in-place alternatives, and it certainly must not be forgotten that any evacuation strategy in reality would involve provisions for sheltering people against secondary effects of nuclear weapons, fallout.

Once again, the percentages estimating "good" survival under these two evacuation options (which, to repeat, in any realistic planning reduce to but one - evacuation and fallout protection wherever it would prove needed) can be contrasted with the "good" survival chances under NWW conditions.

Table 63
SURVIVAL PROSPECTS UNDER EVACUATION CONDITIONS

	Target danger			
Survival prospects	High	Medium	Low	None
EVACUATION				
Poor	13.2	8.3	8.0	12.8
Medium	40.8	38.4	32.8	19.2
Good	40.1	44.7	47.6	51.2
EVACUATION AND FALLOUT PROTECTION				
Poor	10.9	6.3	5.7	9.4
Medium	31.2	28.9	24.9	15.6
Good	51.6	56.4	59.2	57.8

The factor values of Table 64 show that the higher the perceived target danger, the greater the relative enhancement in survival likelihood. The results also show that evacuation strategies perform better in terms of survivability than do in-place protection options, especially in the high and medium risk jurisdictions (from which come responses of over 60 percent of the EMCs).

Table 64
SURVIVAL ENHANCEMENT UNDER EVACUATION OPTIONS

	Factor of enhancement	
Target danger	Evacuation	Evacuation/fallout
High	9.3	12.0
Medium	4.4	5.6
Low	2.2	2.7
No danger	1.3	1.5

Thus 12 times as many people are seen as having "good" survival chances if high risk areas were evacuated and fallout sheltering were available (if needed) for the evacuees than under the NWW circumstances. The "payoff," as is the case with all other options of civil defense protection systems (whether in-place or predicated on strategic evacuation, is the lowest, not surprisingly, in jurisdictions where the EMOs do not consider their area to be at any danger of being targeted. But only fewer than 6.0 percent of the EMOs in the study thought that their area was at "no danger" of being a target.

Yet, even under the "best" circumstances (of evacuating people from high risk areas and providing fallout protection possibilities for them should the crisis "get out of hand"), "good" survival prospects are reported only by 55.3 percent of the EMOs and it would be difficult to accept the idea that programs of this nature, at the national level, would induce some kind of a complacency, that is, make a nuclear confrontation somehow "more acceptable." At the same time, the perceived and major survivability improvements of population protection programs as contrasted to the extant posture (on which the survival estimates in a NWW are based) certainly cannot lead to a conclusion that protective measures would be, or seem, without value and thus need not be taken seriously.

Furthermore, it is difficult not to suggest that survivability estimates under evacuation with fallout sheltering would tend to be more optimistic than they (and they are clearly not very optimistic at all) if the EMOs did not think that many people would not evacuate either spontaneously or in a directed, Presidentially urged, relocation program

and if so many of them did not believe that there just would not be enough warning time in which to carry out a successful evacuation.

XXI. ARGUMENTS ABOUT ATTACK PREPAREDNESS

Across the span of approximately the past four decades, any and all programs of attack preparedness civil defense have been subjected to strong criticism by a vocal, articulate and very small minority of Americans who have sought to prevent their financing and their implementation. In the late 1980's, the basic argumentation has remained just about the same as it has been all along.

It is thus quite important to explore the extent to which some of the central arguments, most of them of attack preparedness adversaries and a few by protagonists, are credible to the EMOs. After all, confronted with the various arguments, the EMOs cannot counteract them effectively unless they themselves reject the argumentation of program adversaries and, at least to some measure, accept the arguments of program supporters.

No judgement here needs to be rendered concerning the possible validity of the arguments themselves, itself a matter of some, even considerable, complexity. Be that as it may, the study of the EMOs, the key results of which are reported here, included questions bearing on a number of those arguments which the researchers considered to be central in shedding light on the manner in which the EMOs view them. And this, to repeat, is essential in providing some insight into the mindsets of the EMOs who, after all, have the responsibility, with Federal support and under Federal guidance, for carrying out and implementing programs that would, or might, enhance the protection of "our people against the hazards of nuclear war" as the original, and in this respect never amended, Civil Defense Act stipulated.

The respondents were asked to express their agreement/disagreement with each argument stated. The response scale ran from "strongly disagree" to "strongly agree." A summary provided here will collapse the two agreement and the two disagreement categories into but one, agree (which includes "strongly agree" and "agree") and disagree ("strongly disagree" and "disagree"). Invariably, there were many more respondents who chose the "milder" response, "agree" or "disagree," as the case may be, rather than the more extreme answer, "strongly agree" or "strongly disagree."

One class of arguments has to do with assertions that there is no need at all for attack preparedness measures. Indeed, it is altogether reasonable to say that "there would be no need for civil defense programs" in the absence of a threat of a nuclear conflict, that is, if a nuclear confrontation were to be assigned zero probability for now and into the future. And it is similarly not unreasonable to argue that no attack preparedness measures would be called for if the nation were convinced that strategic defense capabilities serve as such an overwhelming deterrent such that nuclear war is rendered impossible, or just about impossible, in that any adversary would not dare to launch an attack faced with the retaliation that would be the immediate consequence of such a venture.

Thus one argument, along this axis, postulates that nuclear war, for whatever reasons, would never come. The second argument postulates that the strategic might of the United States is a sufficient guarantee to prevent nuclear war from ever actualizing. Table 65 shows how the EMOs think about these two key arguments against programs of attack preparedness.

Table 65
"NO NEED FOR ATTACK PREPAREDNESS"

	Agree	Unsure	Disagree
There is no need for attack preparedness because nuclear war will not come	5.6	17.8	75.4
Given our strategic might, no enemy would dare to attack, so there is no need for attack preparedness	3.4	7.6	87.9

Although a few of the EMOs subscribe to these arguments to some extent at least, and some are unsure one way or another, it is clear that robust majorities of the respondents do not consider these types of arguments to be credible. This is certainly not surprising in the light of the fact that only about 1.5 percent said that "nuclear war will never happen" in reaction to the question about the likelihood of a nuclear conflict. For a few others, perhaps zero likelihood of nuclear war was included in the "very unlikely" response category.

Other major arguments along this dimension of need for attack preparedness have to do with the interaction between active and passive defense programs. If, for example, cities as well as major military installations were to be defended by point-defense ABM's, one might believe that there would be less of a need for passive defense attack preparedness programs. In a similar vein, if area-defense systems, say of the broadly conceived SDI varieties, were deployed there might also be less perceived need for civil

defense measures in so far as such active defense would sufficiently attenuate or blunt an attack.

Table 66
ATTACK PREPAREDNESS PROGRAMS AND ACTIVE DEFENSES

	Agree	Unsure	Disagree
Less need for civil defense with ABM's	4.7	13.1	80.8
Less need for civil defense with SDI	11.0	14.3	73.3
More need for civil defense without active defenses	38.6	24.4	31.1

The EMOs quite evidently do not subscribe to the idea that active defense would be a sufficient substitute for passive defense programs and the data imply complementarity of active and passive defense measures and systems. In turn, their views are quite split on the proposition that attack preparedness measures would be even more needed in the absence of deployed active defenses. The response makes good sense if the EMOs believe that attack preparedness programs are sorely needed: for many of them then, the absence of active defenses - a current situation anyway - would then not make the already pressing need more pressing while for some, perhaps with a view to the future, the need would be actually enhanced if active defenses were not, at least at some point, actually deployed. This interpretation, of course, is somewhat speculative but it would account for the aggregate and divided response on this issue.

There, too, is the argument that there would be less of a need for programs of attack preparedness if an agreement were reached with the Soviets not to produce additional nuclear weapons, a kind of "nuclear freeze" situation. And, it might follow that the need would be lesser if the stockpiles of strategic nuclear weapons were to be sharply reduced. On the latter dimension of this form of argumentation, however, there are no data in this study.

* 18.2 percent of the EMOs agree that the need for attack preparedness programs would be lessened if an agreement to stop further production of nuclear weapons were to be reached with the Soviets;

* 15.1 percent are uncertain whether such an agreement should make a difference in the need for civil defense;

* 65.4 percent do not agree that such agreements with the Soviets would make civil defense less needed.

While almost two thirds of the respondents disagree that capping the weapons stockpiles would make attack preparedness programs less necessary, almost one in five express their agreement (but to emphasize: the issue is one of lesser need, not one of no need for such programs). This, too, lends itself to an interpretation, if also a somewhat speculative one: those who disagree might well be recognizing that stopping further production of strategic weapons in the form of a "nuclear freeze" amounts to maintaining a level of weaponry as high as it has become, and thus would have no effect in helping to reduce the probable magnitude of devastation a possible attack would induce.

Those, by contrast, who agree that such an agreement would make for a lesser need for attack preparedness might well be thinking in terms of an improved international

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climate resulting from almost any Soviet-American arms control agreement so that the likelihood of nuclear war would decline and so would the more pressing need for measures to protect our people against a threat which is becoming less and less likely to be actualized. Nothing of course, even in this category of response implies that attack preparedness programs would not be needed at all.

Another class of arguments has to do with program effectiveness: whether it would or would not work. In simplest form, the issue concerns the fundamental objective of any civil defense program: to help save lives if worst came to worst. On one side of the argument are those who claim that "no attack preparedness program makes sense because it would not be able to help save enough people." On the other side, of course, are those who are convinced that attack preparedness efforts have a significant payoff in their life-saving potential.

Table 67
LIFE SAVING EFFECTIVENESS OF CIVIL DEFENSE

	Agree	Unsure	Disagree
No program would save enough lives	10.9	13.0	74.9
Attack preparedness programs could save many lives	70.6	17.4	10.6

Even with attack preparedness programs, the EMOs certainly did not prove to be overly, or perhaps, naively optimistic. This was clearly shown in the data on survivability (Chapter XX.). Thus those who agree (and perhaps many of those who are "unsure" one way or another) that not enough lives would be saved and who may also disagree that

many lives could be saved may well be suggesting that the enhancements in survivability due to attack preparedness programs are not of magnitudes which, for them, would represent "enough" or "many" lives saved. But the main thrust of the data is clear: the EMOs do not see as credible the argument that measures to protect our people would lack effectiveness and therefore make no sense, and they, for the most part, strongly believe that many lives could, indeed, be saved which otherwise would be lost.

Two of the often used arguments against attack preparedness efforts concern psychological effects: for one, that such programs would increase anxiety among the nation's public; and second, that the people could become more complacent about nuclear warfare in that they could come to believe that a nuclear war would be just another war rather than the veritable holocaust which it would be bound to become in reality. The arguments, in a way, contradict each other: one would, in principle, become less anxious about nuclear war if one were to conclude that it was "just like any other war;" whereas if one were to become more anxious, it is difficult to see how nuclear war would become "more acceptable" by being considered just like any other war. Yet, in the argumentation against civil defense programs both propositions have been used as if both mirrored troublesome, if not truly devastating, consequences for the national psyche.

As it turns out, many more of the EMOs agree that programs to protect our people against nuclear war might induce some additional anxiety. Perhaps simply because their very dynamic and existence force people to think about the "unthinkable," something most people prefer to avoid most of the time, and certainly under normalcy conditions. But the complacency argument is rejected by about seven out of ten respondents, though

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"out in the field," at local and county levels, it is not unproblematic that so many of the EMOs would tend to agree or be unsure about this issue.

Table 68

ANXIETY AND COMPLACENCY ARGUMENTS

Programs would:	Agree	Unsure	Disagree
Increase anxiety	36.6	19.4	42.6
Increase complacency	10.0	20.7	68.3

The view that programs of attack preparedness would somehow, by whatever dynamic, make "further arms control agreements more difficult" lacks credibility among the EMOs:

* 78.2 percent of the EMOs disagree that further progress on the arms control "front" would be made more difficult if the nation engaged in attack preparedness efforts;

* 15.6 percent are unsure of the effects of such programs on arms control negotiations;

* and 4.6 percent agree that civil defense efforts could create significant difficulties in arms control prospects.

By their opponents, attack preparedness programs have also been seen as endangering the very brittle stability of the international situation. Indeed, they have been portrayed as provocative to the Soviet Union and thus actually increasing the probability of nuclear war. By contrast, protagonists of civil defense measures have often argued that attack preparedness programs have a positive effect on deterrence since they show to the potential adversaries that the United States is prepared even for the worst situation and this, as the argument goes, would tend to make their willingness, or even desire, to

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engage in warfare less likely as it would decrease the likelihood of an attempt at "nuclear blackmail."

Table 69
EFFECTS OF PROGRAMS ON THREAT OF WAR

	Agree	Unsure	Disagree
Increase chances of war due to provocativeness	5.9	14.7	78.2
Decrease chances of war by enhancing deterrence	54.9	21.6	23.0

If by far most, some eight out of ten, of the EMOs are convinced that civil defense programs would not increase the probability of nuclear war by serving as a signal to the Soviets that "we are preparing for war" (and thus being provocative), only somewhat more than one half of the respondents see such programs as contributing to war prevention by strengthening the nation's deterrence. Yet still, many more of the EMOs agree with the deterrent potential of attack preparedness measures than disagree, though almost as many disagree who are also not sure about the interaction between such war preparedness programs and deterrence.

Finally, the study incorporated two major arguments about the aftermath of a nuclear confrontation. A more pessimistic perspective suggests that "life would not be worth living" even if people were to survive a nuclear war. A more optimistic view is based on the proposition that "even after a nuclear war, the survivors could rebuild America and make the best of it under the circumstances."

Table 70
IN THE AFTERMATH CF A NUCLEAR WAR...

	Agree	Unsure	Disagree
Life would not be worth living	11.3	29.2	58.2
Survivors could rebuild America	53.4	29.0	16.6

Thus, predominantly, the EMOs reject the pessimistic viewpoint and, at the same time, endorse the more optimistic one. But almost as many are undecided, or unsure, take the opposite view, though many more of the latter are in the "unsure" category than in the more pessimistic category (of those who say that life would not be worth living and those who say that survivors, perhaps, could not rebuild the country).

Naturally, no one is prepared to argue, on some objective grounds, what would actually happen. But it needs to be said that programs of attack preparedness, were they to increase the numbers of survivors (and the EMOs are convinced that they would do so), represent only opportunities to survive and in no way imply whether life in the aftermath of a holocaust would or would not be worth living. After all, that is the kind of decision individuals and families would have to make, but they could not even make such a decision if they did not survive in the first place. And whether or not America could be rebuilt is still another question as it begs the issues as tu what kind of America could, or would, be rebuilt. Yet, implicit in the question is, of course, a kind of indirect assessment of longer term survival chances: the survivors could not rebuild the country no matter what if they were to live for but a few months or a couple of years after a nuclear war.

On the other hand, the wording which includes making "the best of it under the circumstances" also taps a sense of pioneering, one of the key characteristics of which, of course, was making the most under whatever circumstances one would have encountered.

To sum up:

1. The EMOs reject the argument that there would be no need for attack preparedness programs.

2. They do not agree that active defense measures, or a "nuclear weapons freeze" would render such programs less needed than they are needed now.

3. They do not agree that not enough lives would be saved to make such programs pointless, and agree that many lives could be saved.

4. Many, though not most, agree that attack preparedness efforts might enhance anxiety among the public (though somewhat more of them disagree than agree), but they do not agree that people would become imbued with "a false sense of security" and would tend to be more complacent and look at a nuclear war as if it were "just another war."

5. The EMOs do not agree that arms control efforts would be made more difficult if the nation engaged in more of attack preparedness programs.

6. They do not accept the idea that such measures would be provocative and thus tend to actually increase the chances of a war which all seek to prevent, and they tend to agree more than disagree that programs to protect Americans against the hazards of nuclear war might contribute to deterrence and thus actually decrease the chances of nuclear war ever occurring.

7. Most of the respondents do not subscribe to the idea that "life would not be worth living" even if people were to survive a war, and they are inclined to agree (a modest majority of them) that survivors could, though not necessarily would, be able to rebuild the country and "make the best of it under the circumstances."

8. While the central arguments offered by opponents of attack prepared-
   ness programs <u>are not credible</u> to majorities of the EMOs, often
   robust majorities at that, it is crucial to recognize that not insignificant
   numbers of them accept this or that argument <u>and that this view cannot</u>
   <u>but have effects on the way in which these EMOs, minority though they</u>
   <u>may be, may react to critiques of such programs, to questions by</u>
   <u>government officials, and to questions raised by the media or the public</u>.

XXII. FUNDING

Two questions were raised in the instrument with regard to funding strategies for emergency management activities. The first item (Question 175) provided the respondents with four basic alternatives and asked them to identify, according to their views, the best of these options:

1. The current approach, in which the local government provides one half of costs of preparations that are useful in both peacetime and attack-related emergencies, while the Federal Government pays 100 percent of preparations that are mainly needed in attack preparedness programs.

2. Asking the local governments to share the cost of all items - including radiation detection instruments and whatever else may be needed primarily with respect to attack preparedness (even though such equipment and procedures or activities may have but limited value to cope with peacetime hazards).

3. To have the Federal Government pay 100 percent for all elements of attack preparedness.

4. To have the Federal Government absorb 100 percent of costs of all emergency and disaster programs, peacetime and war-related.

Those who would have selected Option 4, calling for the Federal Government to absorb costs of all disaster and emergency programs, were also asked to select one of the three remaining alternatives as the preferred one on the premise that "the Federal Government would be unable to provide 100 percent of the funding." Table 71 provides the basic percentages of the EMOs who chose each respective option as the "best" one.

And it is to be expected that only a very few of the respondents, 2.9 percent of them, thought that the local level governments should be expected to share the costs of all preparedness programs, including war-related ones. Table 72 includes the basic data

on the three remaining options as chosen by those, 33.0 percent, who favored full Federal funding for all hazards.

Table 71

PREFERENCES FOR FUNDING ALTERNATIVES

Option	Percent
Current approach	32.4
Local sharing for all emergencies	2.9
Federal funds for attack-preparedness	19.4
Federal funds for all disaster efforts	33.0

Table 72

PREFERRED FUNDING OPTION IF FEDERAL GOVERNMENT
CANNOT PROVIDE FUNDS FOR ALL HAZARDS

Option	Percent
Full Federal funding for attack-related preparedness programs	45.5
Current approach	42.6
Local cost sharing for all hazards	6.3

In the sample as a whole, full Federal funding of attack-preparedness programs was selected by 19.4 percent of the EMOs. Furthermore, 45.5 percent of the 33.0 percent (and thus 15.1 percent of the sample as a whole) who preferred the Federal Government to fund all disaster and emergency programs also selected as second best full Federal funding for war-related programs. Since it cannot be assumed that the Federal Government would, or could, provide for 100 percent of costs for all hazards, peacetime and war-related, this means that 34.5 percent of all of the respondents held the

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view that full funding ought to support attack-preparedness programs, this representing their initial choice (19.4 percent) or their second best option (15.1 percent).

The current pattern of funding, in turn, is favored by 46.6 percent of the respondents with 32.4 percent selecting it as their first best alternative, and 14.2 percent as the second best option (a percentage which represents 42.6 percent of those who initially chose full Federal cost absorption for all hazards).

In all then, the current approach in which the Federal Government provides full funding for activities and equipment that involves primarily attack-related preparedness programs and the local governments share half of the cost of all other programs is quite acceptable to the EMOs, though many would like to see the Federal Government taking over at least the full costs of all war-related programs.

XXIII. NATIONAL DECLARATIONS OF DISASTER AND EMERGENCY AREAS

When the President chooses to declare a particular situation in a particular area of the country a disaster or emergency area, Federal help, by FEMA, can be provided to the area and to the victims of a disaster. Such decisions are based on recommendations to the President by such officials to whom the responsibility is delegated. In turn, even the consideration of such disaster area declaration has to be based on a request by the Governor of the State or Commonwealth in which the event took place.

It seemed prudent to explore whether the EMOs thought that extant procedures of recommending a Presidential declaration, or procedures criteria used in the requests of the respective Governors were adequate: unproblematic, as it were, or whether there were some special difficulties and problems that might merit further consideration. Here, no attempt is made to confront existing procedures and criteria with what the EMOs asserted in the way of problems. Rather, only responses to a few limited probes form the focus of this discussion. The respondents were asked whether there were "any problems with the criteria used in recommending that the President declare a situation to be a disaster or emergency." Those who responded in the affirmative were asked to suggest "what criteria they thought should be used or what changes should be made."

The respondents were also asked, whether they saw any problems in the procedures or criteria deployed in the requests by their Governors "that the President declare a situation a disaster or an emergency." And those, again, who did respond that such problems appear to exist were asked to suggest consideration of additional, or

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alternative criteria that _should_ be used and to suggest possible changes that ought to be considered.

The data of _Table 73_ and _Figure 10_ indicate that by far most of the respondents seem to be quite satisfied with _current_ approaches, procedures and standards. Yet, some are not.

Table 73
APPROACHES TO DISASTER SITUATION DECLARATION

Current approaches	No problem	Problems
Recommendations to the President	80.5	14.6
Procedures or criteria for Governor's request for Presidential declaration	87.9	7.0

APPROACHES TO DISASTER
SITUATION DECLARATION
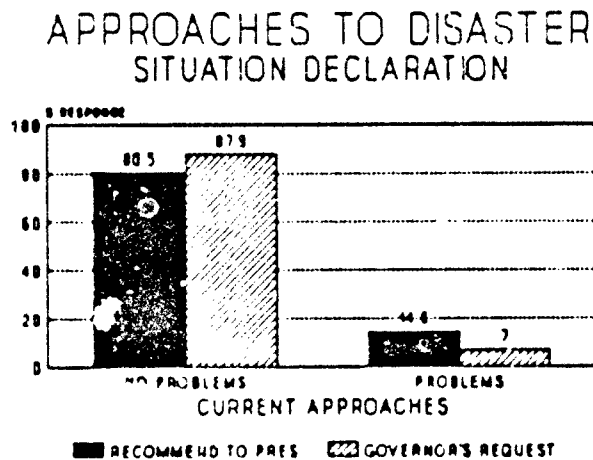
FIGURE 10

i   n thou gh only a minc   of the responding EMOs "saw" problems in procedures or   erie   current usage,   ieir suggestions for possible improvements and their

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implicit criticisms of existing approaches are of considerable value. They are certainly

worth taking into account. In Table 74 the most frequent suggestions are identified.

Table 74

SUGGESTED IMPROVEMENTS IN RECOMMENDATIONS TO THE PRESIDENT

Recommendation	Percent Identifying Problems	Sample
It takes too long, format should be simplified	27.6	3.1
Criteria should consider different circumstances of areas and communities	24.2	2.7
Initiate declarations at local level	7.4	1.6
The State, the Governor, should be able to declare emergency	6.8	0.8
Highest official of affected area should be able to declare	5.7	0.6

There are other, potentially important, suggestions:

* The political factor "ought to be" taken out of the decision making process;

* The "experts" providing information to the President are no experts and ought to be changed;

* Criteria should be consistent from one disaster to another;

* Criteria ought to be consistent from year to year.

* Provisions are needed to facilitate disaster declarations when the President is out of the country.

These are but examples of other concerns and some of the responses do not deal directly with the problems of declaring a situation to be a disaster or emergency, but with subsequent management: even people with insurance provisions ought to be assisted by the Federal Government; more concern for the needs of renters and tenants; more assistance needed to help with damage or loss of public property as contrasted with private property losses; second homes of people should be included in the consideration of damage assessment eligibility; economic dislocations should be considered a disaster.

In all, 11.2 percent of the respondents gave the variegated suggestions - 76.7 percent of those (14.6 percent of the sample) who did respond in the affirmative to the question about problems and difficulties associated with recommendations to the President regarding declarations of disasters and emergencies. Of the 7 percent who expressed some uneasiness with procedures and criteria whereby their Governors seek Federal (Presidential) declaration of an emergency, 77.1 percent (5.4 percent of the sample) made some specific suggestions. The data of Table 75 highlight some of the suggestions which were made with some not uninteresting frequencies.

There, too, are additional concerns and suggestions:

* Disaster declarations should not have to be made - the situation should simply meet pre-existing criteria;

* More informational systems are needed for the victims;

* More accurate and reliable description of the emergency is called for - the "experts" are no experts;

* States should be responsible for disaster relief.

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Table 75

THE REQUESTS OF GOVERNORS FOR PRESIDENTIAL DECLARATIONS

Recommendation	Percent Identifying Problems	Sample
It takes too long, approach should be changed	33.1	1.8
More local involvement in the decision making process	15.0	0.8
State should be responsible for declaring emergencies/disasters	14.2	0.7
The process should be depoliticized	7.9	0.4

Thus:

1. By far most of the EMOs are satisfied, perhaps only reasonably satisfied, with the procedures and criteria by which recommendations to the President are made regarding declaring a particular situation a disaster or emergency.

2. Similarly, and even more so, the respondents are not unhappy about the approaches, procedures and criteria in current use by which the Governors of the nation's respective States determine whether to request Presidential decision.

3. Those, minorities though they are, who identify problems along these lines offer a number of suggestions and these do merit consideration if only because they come from the emergency managers who are "out there" in the real trenches where disasters and emergencies touch on the lives of our people and of our communities.

As articulated by the respondents, not all the comments, of course, are responsive to the question posed. Further analysis may, however, cast some light on whether such dissatisfaction as manifests itself relates mainly to the kind of _effort_ that is required in developing necessary documentation on the basis of which Presidential declarations are based, or to the _actual decision criteria_ involved in the process. But also: perhaps some of the dissatisfaction, though it characterizes a minority of the EMOs, could have its roots in a sense that _even given a disaster area declaration_ not much gets done "by the Federals" or not much gets done in the way of help fast enough.

XXIV. INFORMATION NEEDS

In Question 181, the respondents were asked:

> "During periods of no emergency, is there any information that you need to have or would like to have that is currently not readily available to you: that is, information that would enhance preparedness planning and programs?"

They were similarly asked whether there is any information

> "they now do not have that would make the programs more effective in an emergency."

And also, the EMOs were asked about

> "information needs or information they would like to have regarding the immediate aftermath of a disaster, that is, in the rescue and clean-up period."

Following each of these questions was an open-ended probe for those who said that they needed, or would like to have, additional or different information. For the most part, as the data of Table 76 show, the emergency managers did not find a compelling need for more or different information than that which might be available to them. But, at the same time, roughly one in five did mention some information needs, and many of those did identify what kinds of information they would like to have.

* Of those that thought they would need, or like to have, additional information under "normalcy conditions" (22.8 percent of the sample), 90.8 percent identified at least one information need (21.6 percent of the sample) and 33.8 percent (7.7 percent of the whole sample) mentioned two types of information needs.

* In an actual emergency situation, 88.2 percent of those who felt some need for additional or different information (21.3 percent of the sample), asserted at least one information requirement and 25.3 percent of them (representing 5.4 percent of the sample as a whole) cited two types of desirable information.

* In turn, in the disaster aftermath, 18.5 percent of all respondents would like to have additional, or other, information than that which may be currently available to them, and of these EMOs, 71.4 percent identified one type of information need (16.2 percent of the sample as a whole), and 23.2 percent (4.3 percent of the sample) gave two examples of information that may be needed or desired.

Table 76

INFORMATION NEEDS OF THE EMOS

	Information Needed	Not needed
"Normalcy" conditions	22.8	70.7
During a disaster	21.3	70.6
In the aftermath	18.5	72.3

Table 77 identifies some of the expressed information needs and/or desires under "normalcy" conditions, in a situation in which no disaster or emergency appears to be imminent. Only a few of the responses, the ones most frequently offered, are tabulated here.

Table 77

INFORMATION NEEDS UNDER "NORMALCY"

Type of information	Needing information	Sample
Updated publications	13.5	2.8
Where and how to obtain grants	12.0	2.7
Resource lists (needed resources)	10.1	2.1
Hazmat information	8.7	1.8
Model programs,other agency resp.	8.2	1.7
Training employees/volunteers	6.8	1.4
General disaster information	6.8	1.4

In emphasizing tne need for up-to-date publications and bulletins, the EMOs generally include some qualifiers: information that is relevant and truthful. In addition to

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the information items which, as in Table 77 appear with some frequencies, a few respondents here and there mentioned other types of information they would like to have under "normalcy" conditions. Examples provide a good menu of such items:

* Advice on involving FEMA in exercise and planning activities;

* Probability maps, charts pertaining to disasters that might affect the area;

* Information about prospective legislative overviews that might affect emergency management;

* Shelter lists and appropriate guidance;

* Details on host jurisdictions;

* Definite answers on the status of fallout shelter programs;

* Better weather information;

* More information for use in public education;

* Schedules of all available seminars for emergency personnel;

* Home study courses;

* Current civil defense plans for the nation;

* Resources of surrounding areas;

* Information in Spanish language;

* Predicted fallout patterns from nuclear generating facilities;

* Updates on political hotspots, national security conditions;

* Lists of nationwide specialized agencies and personnel that deal with disasters and emergencies.

Many perceived information categories are also mentioned in answering the question about information that would make a response during a disaster or emergency

more effective. Some of the major categories of responses are given in Table 78. It is not to be surprising that some of the items of Table 77 reappear in that the EMOs see such information as desirable, and currently not adequately available, in both pre-disaster conditions and in facilitating a more effective response during an emergency: better insight into how other agencies and jurisdictions have responded to disasters; better information about employee and volunteer training; data on needed and available resources.

Table 78
INFORMATION NEEDS FOR DISASTER RESPONSE

Type of Need	Percent Needing Information	Sample
Resource lists	14.9	2.8
More and updated information, relevant and truthfu.	12.8	2.4
Information on self-he.	10.1	1.9
Information on hazardous materials	9.8	1.8
Reviews of programs of other agencies, plans and outcomes	8.0	1.5
Computer/data base information	6.9	1.3
Training employees/volunteers	4.8	0.9

Other information needs are specified, though with frequencies even lower than the items tabulated. Examples might suffice here but since the many faceted needs of the

EMOs are highly relevant to consider however they may have been articulated, an Appendix provides a detailed summary of the responses.

* Information about other jurisdictions;

* Probability charts for possible occurrence of disasters in the area;

* Training information;

* Where specialized help may be available during disasters;

* Federal and State data information systems;

* Information on model programs to facilitate starting one's own - how other agencies respond to disasters;

* How to deal with handicapped people;

* Clearcut budget and budget projections;

* Information provided in Spanish language;

* Questions answered on a timely basis;

* Location of nuclear facilities and hazards they pose;

* Findings of academic research on disasters.

Finally, the respondents identified information needs bearing on the "immediate aftermath" of a disaster, the rescue and clean-up period. Many of those who answered (22.8 percent of the 16.2 percent who provided insight into their information needs) referred to resources information needs, local, in surrounding areas as well as national and others (14.2 percent of those responding to the question) emphasized information on recovery and clean-up procedures as well as on the actual status of the process in the wake of a disaster of emergency.

Table 79

INFORMATION NEEDS FOR DISASTER AFTERMATH

Type of information	Percent Needing information	Sample
Resource and support information	22.8	3.7
Recovery, clean-up information	14.2	2.3
General disaster information	8.6	1.4
Where to go for answers, where help is available	8.0	1.3
Clearer understanding of protocols	8.0	1.3
Where to get updated information	7.4	1.2
Information on staff training and retraining	5.6	0.9
Hazardous materials information, including nuclear materials	5.6	0.9
Case studies of disaster experiences	4.9	0.8

Other responses include:

* Information about successful (particularly new or innovative) programs;

* More accurate information on program funding and how to seek to obtain su..n funding;

* Improved guidance on damage assessment procedures;

* Truth from industry on hazardous materials;

* Local, state and national shelter capabilities;

* How jurisdictions can obtain insurance for exercises;

* Information on trauma care;

* Better guidelines for using volunteers;

* Military resources available at local bases for emergencies;

* Information on classes and seminars being offered.

Again: more detailed data are provided in Appendix A.

Leaving the responses of the EMOs essentially unaltered, as has been done throughout the previous tabulations and itemizations, produces a number of redundancies: it seemed preferable, at this time, to the alternative of developing a simpler taxonomy. Thus "resource" related needs are cited in several different ways and with respect to all three situations, the pre-disaster, the trans-disaster and post-disaster circumstances. Issues of training and/or retraining, too, reappear as do more generic answers about the desirability of updated, relevant and truthful information and forms of access to it when needed.

It may be argued that in many instances the identified information needs could readily be satisfied by the EMOs themselves or, of course, an appropriate staff person or a volunteer (if such are available). But it seemed appropriate to let the respondents, the local and county emergency managers, have their say on their own terms and in their own words.

Above all, however, it needs to be emphasized that significant majorities of the respondents did not feel they needed, or would like to have, additional or different information than that which seems currently available to them. On the other hand, the minorities which did identify further information needs are certainly anything but insignificant and their responses do provide some crucial insights into the thinking of these responding EMOs.

XXV. PREPAREDNESS COMPARED: JUDGMENTS OF THE EMOs

In Question 81 the respondents were asked:

> "How would you compare the preparedness of your jurisdiction for disasters
> and catastrophic emergencies with other jurisdictions of similar size across
> the nation as best you can tell?"

The response options included the possibility that the EMOs would judge their own

jurisdiction as "better," "equally" or "worse" prepared, or that they might answer that they

really have "no basis for making a judgement." Table 80 contains the basic results.

Table 80
PREPAREDNESS LEVEL OF JURISDICTIONS COMPARED

Own jurisdiction:	Percent
Better prepared than others	22.2
Comparably prepared	54.3
Not as prepared	9.5
No basis for making a judgement	13.5

Thus, in all, 76.5 percent of the respondents thought their own jurisdiction was

better or comparably prepared as were other jurisdictions of similar size, and about one

in seven did not believe that they had sufficient information on the basis of which to

render such a comparative judgement. Even at this basic level of analysis, the responses

merit some further consideration.

To what extent do prior experiences with disasters and emergencies affect the

perception as to whether the jurisdiction is better, equally or worse prepared? To what

extent do perceptions of significant future threats to the jurisdiction bear on these

comparative evaluations?

This was done by generating two indices: one having to do with prior experiences and another one bearing on potential future hazards that are deemed significant, that is, the threat to the jurisdictions. For these purposes, data from Questions 2 through 30, (on having experienced a particular emergency or disaster), and data from Questions 36 through 64, (identifying potential likely hazards), were used. In the experiential dimension, each hazard encountered at least once was counted, and in the threat dimension, each hazard identified as significant was similarly included in the index. Since the questions referred to 29 hazards, the index values, which disregard which types of disasters may have been involved, could range from 0 to 29. It would, of course, be zero for those jurisdictions which did not experience any of the hazards or, for that matter, were not threatened in a significant manner by any of them. And it would have a value of 29 for jurisdictions which had experienced all the hazards about which the questions were asked and it would, in the same vein, have a value of 29 for the threat index if all the hazards listed were viewed as potentially significant for the jurisdiction of the responding EMOs.

It turns out that 0.4 percent of the EMOs reported that none of the listed hazards has been experienced in their jurisdiction thus far, and 1.4 percent of them did not identify any of the hazards as a significant one that would likely impact their jurisdictional area. The experience index (number of emergencies or disasters encountered) ranges from 0 to 25, one respondent having marked 25 of the 29 items as emergencies that have been encountered in the jurisdiction. The threat index (number of hazards identified as significant) ranges from 0 to 28, one respondent having mentioned 28 of the 29 hazards as potentially threatening the jurisdiction in a significant manner.

* The average experience index amounts to 10.5 emergencies or disasters. Thus, on balance, the EMOs had mentioned more than ten of the hazards as having occurred in their area;

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* The average threat index comes to 12.6, thereby suggesting that, on balance, close to 13 of the hazards might impact the respective jurisdictions involved in the study and that these disasters or emergencies, should they occur, would have significant effects on the jurisdiction.

Now a basic question can be raised: How many disasters and emergencies were experienced by EMOs with variable prior disaster experiences and/or threat perceptions? The answer, as is shown in Table 81, is a relatively simple one: while there are no robust differences, it is clear that there exists a tendency for EMOs who claim that their jurisdictions are better prepared than others to have experienced more disasters and to feel more threatened, and that the experience and threat indices are successively somewhat lower for those who see their jurisdictions as comparably prepared, worse prepared, or who responded that they did not have a basis for a comparison.

Table 81
DISASTER EXPERIENCES AND THREAT BY PREPAREDNESS ASSESSMENT

Preparedness	Experience/Threat Index Values	
	Experience	Threat
Better prepared	11.7	13.3
Comparably prepared	10.4	12.5
Not as well prepared	9.9	12.4
No judgement standard	9.5	11.8

Another way of raising the issue reverses the relationship between dependent and independent variables: what percentages of respondents thought their jurisdictions were better, equally, or worse prepared or could not render a comparative judgement as a function of experiences and their own assessment of significant threats? Here, it is useful

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to use the median index values and simplify the question on percentages of responses relative to the median.

* The median for the experience index is 10.9 exposures to, and experiences with the postulated disasters and emergencies;

* The median for the threat index is 13.4.

In Table 82 are given the percentages of respondents at the various comparative levels of preparedness (for simplicity, those who said their jurisdictions were "equally" prepared as others are not included in the tabulation: the percentage can be obtained by subtracting from 100 percent the sum of the percentages tabulated in each row of the table).

Table 82

PREPAREDNESS COMPARISONS BY MEDIAN EXPERIENCE AND THREAT

Preparedness	Better	Poorer	No standard
EXPERIENCE			
Above median	27.1	8.2	10.8
Below median	18.2	10.5	16.4
THREAT			
Above median	24.7	8.2	12.0
Below median	20.2	13.4	14.9

The results show that the EMOs who reported more experiences and more significant threats were more likely to see their jurisdictions as better prepared than comparable other jurisdictions. The effect, such as it is, is stronger in terms of the experience index than with regard to the threat index. In other words: those who have experienced more disasters and emergencies relative to the median of all respondents

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were more often likely to view their jurisdictions as better prepared than those who estimated the number of threats as exceeding the national median, and those below the median on the experience index were less likely to view their jurisdictions as better prepared than those who reported fewer than median threats.

Some consideration, even at this stage, deserves also to be given to the patterns that emerge in the respective States of the Union. From 46 of the States there are sufficient data to provide, albeit crude, estimates (the responses from the remaining States being so few as not to be included in this particular discussion).

In Table 83, the States are ranked by the percentage of EMOs from each State who responded that the preparedness level of their jurisdiction was at least comparable to, or better than, the level of preparedness of other size-similar jurisdictions.

The results, of course, must not be viewed as evaluations of the preparedness level of the respective States: rather, the States are used as anchorages to present the data of those EMOs who responded in this inquiry. The findings thus pertain to the responding jurisdiction within the States and to nothing else and the jurisdictions, for purposes of confidentiality, will not be further identified here.

In any case, Table 83 shows that the percentages range from 89.7 percent (where the level of preparedness by these EMOs is seen, by them, as at least comparable to other jurisdictions) to the low of 57.2 percent. The highest value is reported in the jurisdictions from which the data come in Virginia; the lowest value, in turn, comes from respondents in Montana, relatively few of them though there were.

Table 83

AT LEAST "EQUAL PREPAREDNESS LEVELS" BY STATE

Rank	State	Percent
1	Virginia	89.7
2	Minnesota	89.1
3	Arizona	88.0
4	Maryland	87.9
5	South Carolina	86.4
6	West Virginia	84.2
7	Nebraska	84.0
8	Michigan	82.9
9	Utah	81.8
10	Wisconsin	81.5
11.5	Ohio	81.1
11.5	California	81.1
13	Oregon	80.8
14.5	Kansas	80.0
14.5	Missouri	80.0
16	Texas	79.5
17.5	New Jersey	79.2
17.5	North Carolina	79.2
19	Alaska	78.5
20.5	Wyoming	78.3
20.5	Idaho	78.3
22	Florida	78.2
23	Indiana	78.1
24	Illinois	77.5
25	Colorado	77.3
26	New Hampshire	76.9
27	North Dakota	76.1
28	Kentucky	75.5
29	Washington	74.4
30	Nevada	72.8
31	Massachusetts	72.2
32	Tennessee	72.0
33	Louisiana	71.8

34	Connecticut	71.7
35	Arkansas	70.8
36	South Dakota	70.0
37	Iowa	69.4
38	Georgia	69.3
39	Pennsylvania	69.0
40	Mississippi	68.9
41	Maine	68.0
42	Rhode Island	66.7
43	New York	66.1
44	Vermont	64.2
45	New Mexico	62.6
46	Montana	57.2

Whatever the state-related percentages show, the key finding, of course, is of the following kind: <u>respondents in all States, majorities small and robust, evaluate their preparedness as at least equal to that of comparable jurisdictions</u>.

Perhaps more light can be shed on the patterns by identifying some of the more extreme patterns of responses. <u>Table 84</u> serves to highlight the <u>five</u> States from which <u>largest percentages</u> came of EMOs who believed their jurisdiction was <u>better</u> prepared than were others across the nation. It also shows, by the way of highlight, the five States in which <u>fewest</u> respondents claimed such better preparedness.

Table 84

STATES WITH JURISDICTIONS BETTER PREPARED THAN ELSEWHERE

High Percent		Low Percent	
State	Percent	State	Percent
Arizona	40.0	South Dakota	6.7
South Carolina	37.8	Vermont	7.1
Maryland	36.4	Wyoming	8.7
Missouri	35.7	Wisconsin	11.1
West Virginia	31.6	Massachusetts	11.1

This, indeed, means that the range of percentages of those who thought their jurisdiction was better prepared than others was between 40.0 (Arizona) and 6.7 percent (South Dakota). The variability is certainly rather striking.

What happens if one considers the percentages of those who reported that their jurisdiction was comparably prepared to cope with disasters and emergencies as were other (similar in size) jurisdictions? Table 85 again highlights the five States with the highest and, in turn, with the lowest frequencies of such answers.

The overall high ranking of, for instance, Virginia and Minnesota, thus results predominantly from responses of the EMOs suggesting that their jurisdictions were about comparably prepared by contrast to other jurisdictions, rather than from frequent responses about "better than others" preparedness capabilities. In turn, Missouri respondents yield a much higher ranking when it comes to saying that their communities are "better" prepared, while the EMOs from the same State produce one of the lowest percentages of those who claimed that their jurisdiction was "comparably" ready to deal with disasters and emergencies.

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Table 85

STATES WITH JURISDICTIONS PREPARED COMPARABLY
TO OTHER NATIONAL JURISDICTIONS

High State	Percent	Low State	Percent
Virginia	70.7	New York	38.7
Wisconsin	70.4	Louisiana	41.9
Minnesota	70.3	Montana	42.9
Wyoming	69.6	New Mexico	43.8
North Carolina	64.6	Missouri	44.3

Table 86 is a summary of the highlights, for five States in each instance, of the percentages of EMOs who stated that their jurisdictions were not as well prepared as were comparable jurisdictions elsewhere. Again, both highest and lowest percentages for the respective States are given in the tabulation.

Table 86

STATES WITH JURISDICTIONS NOT AS WELL PREPARED
AS ELSEWHERE

High State	Percent	Low State	Percent
Vermont	28.6	New Hampshire	0.0
Arkansas	20.8	Minnesota	3.1
Mississippi	20.7	Virginia	3.4
Montana	19.0	Nebraska	4.0
New Mexico	18.8	Arizona	4.0

In other words: 28.6 percent of the EMOs who responded and whose jurisdictions are in Vermont (a rather small number of respondents, to be sure) reported that the

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preparedness level of their jurisdictions was not as good as that of comparable ones across the nation. In New Hampshire (a small number of respondents as well), not a single one of the EMOs thought that the preparedness level was lesser than that of comparable communities or areas elsewhere.

Finally, it may be instructive, along these lines, to look at the high and low percentages in terms of respondents who stated that they had "no basis on which to make a judgement" when comparing the preparedness capabilities of their jurisdiction with other national areas and communities or counties.

Table 87
STATES WITH RESPONDENTS WITH NO BASES FOR COMPARISON

State	High Percent	State	Low Percent
Maine	27.7	Oregon	3.1
Montana	23.8	Maryland	6.1
New Hampshire	23.1	Vermont	7.1
New York	22.6	Michigan	7.4
Pennsylvania	20.4	Wisconsin	7.4

It is also of interest to take into account the ten Administrative regions which the Federal Government uses to manage most of its programs across the nation. Table 88 provides the basic data. Here, the regions are ranked in terms of percentages of those EMOs, within each region, who reported that their jurisdictions were at least as well prepared as were comparable jurisdictions throughout the nation: it is thus based on the sum of the percentages of the first two columns of the tabulation.

Overall, Region V. (Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin) has the highest ranking: it results mainly from the fact that many respondents (in this regard,

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rank 1) considered their programs to be equal to those of other jurisdictions rather than claiming "better" than others preparedness (the rank on that dimension alone is 5 among the 10 regions).

Table 68

PREPAREDNESS LEVEL EVALUATIONS IN ADMINISTRATIVE REGIONS

Region	Preparedness level			
	Better	Comparable	Poorer	No standard
V.	22.6	58.7	7.5	11.2
IX.	26.3	53.1	9.2	11.4
VII.	26.8	52.1	8.4	12.7
I.	21.5	56.6	8.2	13.7
X.	23.6	53.8	9.4	13.2
IV.	19.2	57.2	11.1	12.5
II.	26.7	47.8	7.5	18.0
VI.	22.0	52.2	12.4	13.4
VIII.	16.7	55.7	13.6	16.0
III.	22.3	43.0	19.5	15.2

By contrast, in Region VIII. the percentage of those who thought their preparedness level was "better" than in comparable jurisdictions throughout the country was the lowest among the regions, but Region VIII. ranked third with respect to response regarding "comparable" or "equal" preparedness capabilities.

But once again, and to underscore: these are not data about the regions as such: they are aggregate responses of EMOs in jurisdictions in the respective regions and the data have to do with the jurisdictions reporting from each region and do not provide a profile for comparison of preparedness capabilities of the regions themselves.

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Basically then:

1. Most of the respondents evaluate the preparedness level of their jurisdiction to be at least as good as that of comparable jurisdictions.

2. Only about one in five of them consider their preparedness capabilities to be superior to those of other jurisdictions with which they feel they can make a comparison.

3. A slight tendency exists for jurisdictions with claims at better preparedness to have (a) experienced more disasters and emergencies and (b) to be faced, by the judgement of the EMOs, with more potential significant threats.

4. The more disasters and emergencies were experienced, and the higher the number of perceived threats, the higher the percentage of those who claim to manage jurisdictions that are "better prepared" than may be others.

5. State by state, respondents living in each respective State, report in majorities ranging from some 58 percent to about 90 percent that their communities or areas are at least as prepared as are other communities and areas.

6. Sharp differences exist among the EMOs in given States with regard to claims at "better" preparedness, and such differences, though not equally dramatic, also contrast the States with respect to those who argue that their jurisdictions are "comparably" prepared, as well as those that appear, to the EMOs themselves, to be "less prepared" than are other communities.

7. Regional differences, too, are salient. The percentages of those who consider their areas to be at least comparably prepared range from the low of 65.3 percent (Region III.) to the high of 81.3 percent (Region V.). The percentages vary from 16.7 percent (Region VIII.) to 26.8 percent (Region VII.) for EMOs who evaluated their preparedness capabilities as "better" than those elsewhere. And judgments that the preparedness level was not as good as elsewhere ranged from the low of 7.5 percent (Regions II. and V.) to the high of 19.5 percent (Region III.).

XVI. CONCLUSIONS

It would not be of particular value to simply repeat the more detailed summaries provided at the end of each chapter of the report. Here, therefore, only a few highlights serve to summarize the overall thrust of the data.

1. All emergency management goals which were specified in the instrument were considered quite important: but clearly, concerns over peacetime emergency management problems dominate and issues of wartime hazards, while seen as important, are considerably less salient to the EMOs than are peacetime hazards.

This cannot be surprising. After all, such experiences and encounters which the EMOs have had involved peacetime hazards only, and the likelihood of a nuclear confrontation, while it cannot be dismissed in light of the respondent insights, is relatively low and one would surmise that between the timing of the research and the early period of 1990 the estimates of war likelihood would have further declined given the international events of the times.

2. Most experiences of the EMOs involved natural disasters - floods and tornadoes. Power outages , too, were often encountered but they represent, perhaps, a marginal hazard at best, while radiological incidents of varying kinds as well as other technological hazards have been reported by significantly fewer of the respondents.

3. Main problems which are reported to have been encountered in a disaster or emergency situation involved lack of equipment and personnel, jammed communications links, warning system failures and temporary loss of public utilities.

4. Not surprisingly, most respondents would favor a program in which the Federal Government would pick up all costs of both peacetime and attack hazard preparedness efforts, but they are quite realistic in supporting cost sharing for peacetime hazards along with Federal financing of war preparedness measures.

5. If experiences with hazardous materials thus far have not been all too widespread, this is not so regarding expectations for the future and the significance of the threat. Indeed, some two thirds of the EMOs saw transportation of hazardous materials as well as hazards connected with stationary facilities to pose the most significant future threat to their jurisdictions. Power outages, storms and tornadoes, too, are rated often as posing major threat to the communities.

6. Specific individuals to be responsible for resource management have general been identified and nearly one in four of the EMOs report having inventories of available resources, though fewer have developed written agreements with the private sector or other agencies to assure their immediate involvement in an effort to overcome possible resource shortfalls.

7. Nine in ten of the reporting jurisdictions have an Emergency Operations Center, many maintain it on a 24-hour basis, and most could put it into operations in a very short time following a disaster or emergency warning.

8. The EOCs, of course, differ in their characteristics: about half of them do not have their own sanitary facilities, their own generator, own food supplies or an independent water supply. Many EMOs, some 40 percent of them, did not know, or did not volunteer to guess, the potential protection factor against fallout hazard which their EOC would provide.

9. Many of the EOCs are multiple use facilities - classrooms, jury rooms, meeting rooms and the like.

10. The EMOs do not, as it were, "go it alone". Numerous important interfaces with other governmental, local and county, agencies have been reported including fire services, law enforcement, emergency medical services, public works, local elected officials as well as public health departments.

11. Emergency plans do get tested. Some seven out of 10 of the respondents reported having exercised their plans in the course of the past year and another 15 percent conducted such exercises within the past three year period. But this has involved exercises concerned with peacetime hazards, while some 16 percent also reported having carried out exercises of their war-related plans.

12. Warning systems were tested either monthly (34 percent) or even on a weekly (31 percent) basis; but many agreed that rather few residents of the jurisdiction, perhaps around 30 percent, could be effectively warned of an impending disaster during nighttime hours, between midnight and 6 AM.

13. Some two thirds of the EMOs reported having developed plans to deal with the special problems of "dependent" populations - school children, hospital patients, prisoners, nursing home and old-age home residents. Plans for helping and directly assisting residents with major handicaps may, perhaps, not been as well developed but here, it would seem certain, the EMOs rely on the help of family members and relatives of such individuals.

14. If hazardous materials are seen as posing the most significant future threat to the jurisdictions, then preparedness measures in these regards would prove to be particularly

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important. About half of the EMOs view themselves and their personnel adequately trained to cope with such emergencies (12 percent would rely on training personnel arriving from elsewhere); some 85 percent are convinced that they would have adequate access to technical information about the materials in question, and more than two thirds of them would be in a position to provide necessary equipment and clothing to the actual responders.

15. Though 13 percent of jurisdictions reported having none trained to deal with, and assigned to, radiological incidents and 19 percent reported one such specific individual, more than half (53 percent) of the EMOs claimed two or more trained radiological officers. The EMOs viewed their capabilities to be adequate to meet problems associated with peacetime radiological hazards but inadequate for coping with war-related effects.

16. Were a nuclear war occur at all, it would come about either in the form of an "out of the blue" strike or as a climax of worsening international tensions and of a crisis this would engender. Thus not surprisingly, the EMOs advocate both in-place sheltering and evacuation strategies since they, in effect, tend to be convinced that strategic warning time (in which evacuation could be urged by the President, decided upon by the Governors and carried out over a period of even several days) may well not be available.

17. Two thirds of the EMOs consider their jurisdictional area to be at "high" or, at least, "medium" risk of being targeted.

18. In a war that would come "next week", survival chances are seen as none or very poor, and, at best, as medium. Only 12 percent evaluated such survival chances as being "good". Fallout shelters, blast shelters, evacuation strategies tend to approximately doub'

the survival estimates with evacuation to areas where fallout protection would be available providing the best option according to the respondents.

19. The EMOs do not subscribe to the negative views regarding attack preparedness measures: they do not agree that such programs are unnecessary "because war would never come" or because the nation's strategic might serves as a sure deterrent. They believe that war-related programs would help save many lives, that survivors could rebuild the country, and they do not endorse the argument that life "would not be worth living" in the aftermath of a nuclear confrontation.

The bulk of the respondents are what might be labelled as "middle-age" adults, 35-50 years of age. On balance (in terms of a median), they have served in their function for about five years. Most, some three quarters of them, reported four or fewer coworkers and more than eight out of ten of them mentioned also four or fewer parttimers on their staff. But 60 percent or so of the EMOs have availed themselves of the services of five or more volunteers, themselves being predominantly salaried employees (with some 11 percent of them unpaid). The benefits of using volunteers, in the judgement of these EMOs significantly outweigh any problems or disadvantages.

For the most part, they see their jurisdiction as about equally prepared as comparable jurisdictions across the country, and more of them believe that they are better prepared than are others than believe the opposite. In this regard, major differences exist also on a state-by-state basis, but this must not be construed as an objective indicator of variability in the quality of preparedness: it can only be understood as a pattern of perceptions on the part of the EMOs who chose to respond to the questionnaires.

The care with which the responding EMOs filled out the questionnaire as well as their many (inserted) comments attest to the concern, interest and, above all, dedication. There may well be many weaknesses in the overall emergency management system across the nation. The EMOs are not one of those weaknesses - they are, by far, the strongest component of the system and one cannot, given the thoughtfulness and obvious frankness which characterize the data,but conclude that, in human terms, the nation's wellbeing in face of disasters and emergencies is in good hands.

APPENDICES

APPENDIX A

The questionnaire for this study, a lengthy one indeed, was developed by the researchers at the University Center for Social and Urban Research (University of Pittsburgh) in consultation with appropriate FEMA officials. A copy of the instrument is provided as APPENDIX B hereafter.

The questionnaires (7324 total for this aspect of the inquiry) were mailed to a sample of local and county officials with responsibilities for emergency management preparedness and responses. The accompanying letter requested that the questionnaire, once filled out, be returned to the Research Center at the University.

In all, 2345 responses were returned in the latter part of 1988, representing a response rate of 32 percent. This relatively low rate of response to a mail-out survey is not unusual though it renders generalizability to the national population of respondents in the relevant positions somewhat problematic. Yet, as a study by Pamela Snyder shows, the answers to questions worded identically with those included in the HICA/MYDP 1987 survey are just about exactly the same (lying, as they do, within 1 or 2 percentage points of one another).

To the extent to which FEMA, or other users of the information, may choose to draw nationwide conclusions on the basis of the HICA/MYDP inquiry of 1987, these results would clearly justify using the Pittsburgh study of 1988 in the same vein.

The specific distribution of the mail-out and the returns data are given in Table 1

Table 1

MAIL-OUTS, RETURNS AND RATE OF RESPONSE

Group	Mail-out	Returns	Rate
Local emergency managers	3140	1211	.386
Local EM services directors	498	101	.203
Local fire chiefs	1267	444	.350
Local police chiefs	809	221	.273
County sheriffs	391	75	.192
County health departments	269	100	.372
City managers, chief executives	950	190	.200
Total	7324	2342*	.320

* Three additional responses could not be identified
by position. Thus total returns are 2345.

There are rather obvious differences in the response rates. Indeed, the officials most directly concerned with overall coordination of emergency preparedness and response activities were most likely to respond - almost 40 percent of them did so. By contrast only about one in five of county sheriffs and of city managers or local chief executives answered the questionnaire.

It would certainly be a mistake to interpret these differences as differences in concern or dedication. Rather, the key lesson to be learned may well be this: the questionnaire itself reflected issues most relevant to the emergency managers as such, and was, in some ways, perhaps less suited to address the kinds of disaster and emergency management issues which face the local chief executives, the county sheriffs or, possibly, others in the broadly conceived emergency management system.

If research of this kind were to be repeated and with similar pattern of inclusions of possible respondents, it would be quite advisable to develop alternative versions of the instrument, even if many items were to be standard across the spectrum of officials, to proviee more of a focus for the relevant subgroups in light of their most likely functions in the emergency management system.

Undoubtedly, the length of the questionnair, too, may account for some nonresponse, though this comes into play, it is fair to surmise, only in the context of the perceived relevancy of the questionnaire to the particular individual.

And since the questionnaires were mailed out by FEMA, it is altogether possible that those officials with less direct, or only tangential, linkages to FEMA (or even no real linkages at all as is the case with local chief executives) may have been slightly less motivated to comply with the request to fill out the lengthy questionnaire.

The study provided for no follow up. Since the confidentiality of responses was assured, it would have been necessary to mail out follow up requests (and yet another copy of the questionnaire) to all respondents, thus even to those who may have already answered it. This proved to be altogether prohibitive in light of the budgetary constraints involved. Such follow ups typically enhance the response rate by yet another 50 or so percent (above the response rate achieved as a result of the initial mailing).

APPENDIX B

Information Needs Under "Normalcy" Conditions

01. NEED ADVICE ON INVOLVING FEMA IN EXERCISE AND PLANNING ACTIVITIES.
02. LOCATION OF DISABLED PERSONS.
03. PROBABILITY OF DISASTER OCCURRING IN AREA - CHARTS, COMPUTER MODELS, ETC.
04. NEED MODEL PROGRAMS, INFORMATION ON HOW OTHER AGENCIES HAVE RESPONDED TO DISASTERS IN ORDER TO LEARN MISTAKES, IDEAS, ETC.
05. NEED TO KNOW HOW TO GAIN ACCESS TO INFORMATION - I.E., SATELLITE PHOTOGRAPHS.
06. POLICY GUIDELINES FOR ATTACK PREPAREDNESS.
07. HAZARDOUS MATERIALS INFORMATION.
08. RESOURCE LISTS FOR NEEDED RESOURCES.
09. PLANNING AIDS
10. INFORMATION ON WHERE AND HOW TO OBTAIN GRANTS/FUNDING
11. PROSPECTIVE LEGISLATIVE OVERVIEW THAT WILL AFFECT EMERGENCY MANAGEMENT
12. UPDATED INFORMATION - PUBLICATIONS, BULLETINS THAT ARE RELEVANT AND TRUTHFUL.
13. NAWS NEWS RELEASES
14. LACK OF STATE SUPPORT
15. DATABASE INFORMATION
16. SHELTER LISTS/GUIDANCE
17. HOST JURISDICTION DETAILS
18. GENERAL DISASTER INFORMATION (RELATED TO AREA)
19. WARNING SYSTEM FOR DAM HAZARD
20. INFORMATION ON TRAINING EMPLOYEES AND VOLUNTEERS
21. INFORMATION ON OBTAINING INFO FROM THE MILITARY
22. WHAT STATE AND FEDERAL AUTHORITIES WILL DO TO AFFECT MY JURISDICTION
23. COORDINATE FEDERAL POLICIES AND DISTRIBUTE TO LOCALS
24. THE TRUTH
25. UPDATES ON POLITICAL HOTSPOTS
26. FORMAL STATEMENT ON FEMA'S INTENTION AND POSITION ON CRISIS RELOCATION PLANNING.
27. DEFINITE ANSWERS TO STATUS OF FALLOUT PROGRAM
28. FUNDING FROM FEMA

29. WHERE IS FUNDING AVAILABLE
30. SUFFICIENT FUNDS FOR CIVIL DEFENSE
31. TURN FEMA OVER TO MILITARY
32. LONGER RANGE FORECASTING OF AVAILABLE FEDERAL ASSISTANCE
33. BETTER COMMUNICATION WITH STATE FEMA
34. MORE INFO ON SARA TITLE III - REPORTING, STORAGE, USE OF HAZARDOUS MATERIALS
35. HOW CAN CITIES OBTAIN LIABILITY INSURANCE FOR EXERCISES
36. BETTER WEATHER INFO
37. MAPPING, INCLUDING AERIAL MAPS
38. MORE PUBLIC EDUCATION INFO
39. SCHEDULE OF ALL AVAILABLE SEMINARS FOR EMERGENCY PERSONNEL
40. NATIONAL SECURITY CONDITIONS
41. NEED TO BEGIN PUBLIC EDUCATION CAMPAIGN TO ESTABLISH CREDIBILITY
42. PREDICTED FALLOUT PATTERNS FROM NUCLEAR GENERATING FACILITIES
43. NEED PUBLIC EDUCATION PROGRAM ON EMERGENCIES
44. NEED INFO ON BASIC GUIDELINES/PROTOCOLS
45. HOME STUDY COURSES
46. NEED TO KNOW HOW MUCH MONEY IS AVAILABLE
47. WAYS TO FORCE MEDIA TO SHOW PUBLIC SERVICE ADS ON SCHEDULE
48. QUALIFICATIONS FOR DISASTER AID
49. FINDINGS ON ACADEMIC RESEARCH ON DISASTERS
50. BETTER GUIDELINES FOR NUCLEAR PREPARATION/INCLUDING SECURITY PROCEDURES
51. BETTER TRAINING FOR BUILDING COLLAPSE
52. LIST OF SPECIALIZED PERSONNEL/AGENCIES ON NATIONAL LEVEL THAT DEAL WITH DISASTERS
53. MORE INPUT FROM LOCAL LEVEL
54. MORE INFO ON LEGAL ISSUES OF EMERGENCY MANAGEMENT
55. DEFINITE GUIDELINES THAT APPLY TO RURAL AREAS/SMALL JURISDICTION
56. TRANSPORTATION OF RADIOLOGICAL/HAZARDOUS MATERIALS THROUGH JURISDICTION
57. RATIONING PROCEDURES/RESPONSIBILITIES
58. CURRENT CIVIL DEFENSE PLANS FOR NATION
59. NATIONAL 911 NUMBER
60. GEOGRAPHIC BOUNDARIES OF THREAT RESPONSIBILITY
61. CUT OUT RED TAPE
62. UPDATED CENSUS DATA.

63. MORE INFO ON FILLING OUT REPORT FORMS

64. RESOURCES OF SURROUNDING AREAS

65. EQUIPMENT TO RECEIVE EENT

67. LIST OF AVAILABLE EQUIPMENT/INCL. CONSTRUCTION

68. LOCATION OF NUCLEAR FACILITIES AND RESULTING HAZARDS POSED

69. EXISTENCE OF MINES IN COUNTRY

71. MORE MONEY FOR MITIGATION

73. INFO IN SPANISH

Information Needs During a Disaster

01. REVIEWS OF OTHER EMERGENCY PROGRAMS - THEIR PLANS AND OUTCOMES
02. NEED INFO ON MODEL PROGRAMS TO START OWN PROGRAM - HOW OTHER AGENCIES RESPOND TO DISASTERS
03. LIKELIHOOD OF DISASTERS OCCURRING IN AREA - PROBABILITY CHARTS
04. FEDERAL AND STATE DATA AND INFO SYSTEMS
05. MORE MONEY FROM FEDERAL GOVERNMENT
06. RESOURCE LISTS/LOCAL INCLUDED
07. PLANNING AIDS
08. INFO ON SELF HELP
09. HOW TO GET ELECTED OFFICIALS TO SHOW AN INTEREST
10. HOW TO ELIMINATE ADMINISTRATIVE/PAPERWORK TASKS
11. WHEN THE EMERGENCY/DISASTER WILL OCCUR
12. BETTER COMMUNICATION MANAGEMENT WITH COUNTY EOC
13. COMPUTER/DATABASE INFO
14. HOW TO OBTAIN FUNDS/WRITING GRANT PROPOSALS
15. INFO ON HAZARDOUS MATERIALS
16. INFO ON STAFF FUNCTIONS, RESPONSIBILITIES, AND PROCEDURES
17. INFO ON RADIATION MONITORING
18. INFO ON TRAINING EMPLOYEES AND VOLUNTEERS
19. MORE/UPDATED INFO
20. CURRENT CENSUS DATA
21. MORE ACCURATE AND TIMELY WEATHER INFO
22. PROVIDE MILITARY EQUIPMENT TO STATES
23. INFORMATION FROM OTHER JURISDICTIONS
24. PUBLIC INFO (IN MEDIA) DIRECTED BY FEDERAL AUTHORITIES
25. INFO ON DEALING WITH HANDICAPPED PEOPLE/ELDERLY
26. HOW CITIES CAN OBTAIN LIABILITY INSURANCE
27. NATIONAL WEATHER SERVICE TELETYPE
28. MORE INFO ON TESTING SYSTEMS
29. WHERE TO GO FOR INFORMATION
30. UPDATES ON WORLD POLITICAL SITUATION
31. NEED TRAINING INFO

32. NEED SPECIALIZED INFO

33. BETTER COMMUNICATIONS EQUIPMENT

34. INFO ON LEGISLATION AFFECTING JOBS

35. CLARIFICATION OF NECESSARY REQUIREMENTS TO DECLARE DISASTERS

36. COMPLETE GUIDELINES ON ATTACK PREPAREDNESS

37. CLARIFICATION OF FEMA PLANS

38. NEED INFORMATION ON CLASSES BEING OFFERED

39. WHERE HELP IS AVAILABLE DURING EMERGENCIES/ SPECIALIZED HELP

40. CROSS REFERENCE TO UN NUMBERS BY CHEMICAL MANUFACTURERS USING PRESENT CHEMICAL ABSTRACT NUMBERS

41. EDUCATIONAL VIDEOTAPES FOR PUBLIC EDUCATION/PLANNING AIDS

42. LIST OF SPECIALIZED PERSONNEL/AGENCIES AT NATIONAL LEVEL TO DEAL WITH SPECIALIZED DISASTERS

43. NEED QUESTIONS ANSWERED IN A MORE TIMELY MANNER

44. COMPLETE DOT-RGN LISTS FOR SARA CHEMICALS

45. FINDINGS OF ACADEMIC RESEARCH ON DISASTERS

46. ADEQUATE WARNING SYSTEMS

47. COORDINATION OF STATE AND FEDERAL RESOURCES - WHAT AND WHERE THEY ARE/COMMUNICATION BETWEEN JURISDICTIONS

48. THE TRUTH FROM INDUSTRY REGARDING HAZ MAT'S

49. MAKE FEMA RESPONSIBLE FOR IMPLEMENTING THEIR DIRECTIVES

50. CLEAR CUT BUDGET AND BUDGET PROJECTION

51. MAKE ALL POSITIONS FULL TIME

52. INFO ON TRANSPORTING HAZARDOUS AND RADIOLOGICAL MATERIALS

53. MAKE EMERGENCY PLANNING POSITIONS MANDATORY AND ADJUST PAY SCALE

54. RECOVERY PLANS

55. A SINGLE FEDERAL REPORTING/INFO SOURCE

56. INFO ON PRESS RELEASES DURING EMERGENCIES

57. RATIONING PROCEDURES AND RESPONSIBILITIES

58. NEED TO KNOW HOW TO GET STATE HELP

59. FALLOUT SHELTER SURVEY UPDATE/EVACUATION PLANNING, ALSO SPECIAL CIRCUMSTANCES-I.E., MOBILE HOMES, HOSPITALS

60. LONG TERM OBJECTIVES

61. STATE/FEDERAL COORDINATION FOR MASS RELOCATION

62. INFO ON NUCLEAR WEAPONS - OR - FEMA CAPABILITIES

63. INFO IN SPANISH

64. LIVE RADAR LINK

65. EQUIPMENT ROSTERS

66. COMMUNICATION LINKS TO ALL EMERGENCY PERSONNEL

67. INFO ON MEDICAL ACTION

68. INFO ON FOOD DISTRIBUTION - LOCAL/REGIONAL

70. LOCATION OF NUCLEAR FACILITIES AND HAZARDS POSED/ALSO SECURITY PROCEDURES

Information Needs In the Aftermath

01. BETTER GUIDANCE ON DAMAGE ASSESSMENTS
02. WHERE TO GO FOR ANSWERS/WHERE IS HELP AVAILABLE
03. NEED INFORMATION ON SUCCESSFUL PROGRAMS (JUST STARTED PROGRAM)
04. HOW FAST WILL HELP BE OFFERED
05. PLANS AND SHELTER TO STOCK UP ON FOOD AND WATER
06. NEED TO KNOW WHERE TO GET UPDATED INFORMATION
07. INFORMATION ON SELF HELP
08. RESOURCE INFORMATION AND SUPPORT/LOCAL STATE AND NATIONAL
09. CLEARER UNDERSTANDING OF PROTOCOLS
10. INFORMATION REGARDING HAZARDOUS MATERIALS/INCLUDING NUCLEAR
11. RECOVERY/CLEAN UP INFO/WASTE SITES AND COSTS
12. NEWS RELEASES FROM RADIO
13. BETTER PUBLIC NOTIFICATION SYSTEMS
14. MILITARY RESOURCES AT LOCAL BASES FOR EMERGENCIES
15. INFO ON TRAINING AND RETRAINING STAFF
16. GENERAL DISASTER INFO
17. MORE RAPID RESPONSE BY GOVERNMENT
18. FEMA REPRESENTATIVE AT DISASTER
19. NEED INFO ON HOW OTHER AGENCIES RESPOND/MODEL PROGRAMS
20. WHAT FINANCIAL RESOURCES ARE AVAILABLE TO HOME OWNERS/EMERG HOUSING
21. CUTTING DOWN ON PAPER WORK
22. SIMPLIED REPORTING FORMS AND PROCEDURES
23. HOW CITIES CAN OBTAIN INSURANCE FOR EXERCISES
24. CASE STUDIES
25. MORE ACCURATE INFO ON FISCAL PROGRAMS AND HOW TO APPLY
26. STATUS OF ALL AGENCIES INVOLVED
27. NEED INFO ON COSTS TO LOCALS
28. INFO ON CLEAN UP PROCEDURES
29. INFO ON TRAUMA CARE
30. NEED PUBLIC EDUCATION INFORMATION
31. SINGLE REPORTING/INFORMATION SOURCE
32. INFO ON CLASSES BEING OFFERED
33. LIST OF SPECIALIZED PERSONNEL/AGENCIES AT NATIONAL LEVEL TO DEAL WITH SPECIALIZED DISASTERS

34. NEED GUIDELINES FOR USING VOLUNTEERS
35. MORE RESCUE EQUIPMENT
36. THE TRUTH FROM INDUSTRY ABOUT HAZARDOUS MATERIALS
37. AVAILABILITY OF RESCUE TEAMS
38. GOOD CRISIS COUNSELING PROGRAM
39. EVALUATIONS OF EMERGENCY RESPONSE
40. COMPUTERIZATION OF DAMAGE ESTIMATES
41. GENERAL COMPUTER PROGRAMS
42. INFO/COMMUNICATION BETWEEN FEDERAL AND STATE EMERGENCY PREPAREDNESS DEPARTMENTS
43. SPECIFIC INFO ON EMERGENCIES IN PROGRESS
44. AERIAL PHOTOGRAPHS OF AREA
45. SHELTER CAPABILITIES - LOCAL/STATE/NATIONAL
46. INFO ON SAFETY OF AREA AFTER NUCLEAR DISASTER
47. INFO ON LEGAL ISSUES

APPENDIX C
QUESTIONNAIRE

Local Emergency Preparedness:
A Survey of Capabilities and Attitudes

University Center for Social and Urban Research
University of Pittsburgh
Pittsburgh, PA 15260

LOCAL EMERGENCY PREPAREDNESS:
A SURVEY OF CAPABILITIES AND ATTITUDES
RESPONSE BOOK FOR LOCAL AND STATE OFFICIALS

Office of Management and Budget approval number 3067-0412 has
been assigned to the collection and reporting of information by
state and local governments participating in the HICA/MYDA data
collection process. This approval number expires September 30,
1990.

UCSUR
University Center for Social and Urban Research

GENERAL INSTRUCTIONS

Please note that this questionnaire contains two different types of questions: 1) questions that seek factual information pertaining to the emergency preparedness of your jurisdiction, and 2) questions that ask you for your own personal opinions on various issues. It is important that the factual questions be answered as accurately as possible, so we encourage you to consult with your colleagues on any of these items about which you are unsure. Other questions, to which there are basically no right or wrong answers, ask for your personal opinions only.

Please keep in mind when answering the questions pertaining to the emergency preparedness of your jurisdiction, that "your jurisdiction" refers to the specific geographic area that your responsibility encompasses. We realize that many communities have mutual-aid plans with nearby communities, but unless a question is specifically addressing this aspect of emergency preparedness, you should answer it in terms of your jurisdiction only.

All of your answers will be held in strict confidence and in no way and at no time will you be identified. Of course, we ask you to participate in this study strictly on a voluntary basis. Your cooperation in responding to this survey will enable us to increase our knowledge about emergency response capabilities which may have important policy making implications. In addition we will have a better understanding of the attitudes of emergency responders to the issues of emergency management.

1. How important a goal for emergency management is each of the following?

	Not Important At All					Extremely Important	Don't Know
1a. Providing protection in case of nuclear war	0	1	2	3	4	5	8
1b. Providing information so people can help themselves respond to emergencies	0	1	2	3	4	5	8
1c. Providing protection in case of natural disasters	0	1	2	3	4	5	8
1d. Warning the public of impending danger	0	1	2	3	4	5	8
1e. Providing protection in case of conventional war	0	1	2	3	4	5	8
1f. Evaluating community disaster plans	0	1	2	3	4	5	8
1g. Contributing to the prevention of nuclear war	0	1	2	3	4	5	8
1h. Providing protection in case of technological hazards (such as nuclear power plant accidents or chemical spills)	0	1	2	3	4	5	8
1i. Providing assistance to communities hit by disaster(s)	0	1	2	3	4	5	8

Please indicate for each of the following if the hazard has affected your current jurisdiction once, more than once, or not at all in the past 20 years. For those hazards that have affected your current jurisdiction, please also answer Part B by indicating if you were involved in the disaster response.

	PART A.			PART B.	
	1. Occurred Once	2. Occurred More Than Once	0. Didn't Occur	1. Involved in Response	0. Not Involved
	...	...	...	...	...
2. Avalanche	...	...	...	...	...
	...	...	...	...	...
3. Agricultural Drought	...	...	...	...	...

	PART A.			PART B.	
	1. Occurred Once	2. Occurred More Than Once	0. Didn't Occur	1. Involved in Response	0. Not Involved
4. Urban Drought	--- ---	--- ---	--- ---	--- ---	--- ---
5. Earthquake	--- ---	--- ---	--- ---	--- ---	--- ---
6. Flood	--- ---	--- ---	--- ---	--- ---	--- ---
7. Flashflood	--- ---	--- ---	--- ---	--- ---	--- ---
8. Hurricane/Tropical Storm	--- ---	--- ---	--- ---	--- ---	--- ---
9. Landslide	--- ---	--- ---	--- ---	--- ---	--- ---
10. Tornado	--- ---	--- ---	--- ---	--- ---	--- ---
11. Tsunami	--- ---	--- ---	--- ---	--- ---	--- ---
12. Volcano	--- ---	--- ---	--- ---	--- ---	--- ---
13. Wildfire	--- ---	--- ---	--- ---	--- ---	--- ---
14. Winter Storm	--- ---	--- ---	--- ---	--- ---	--- ---
15. Civil Disorder	--- ---	--- ---	--- ---	--- ---	--- ---
16. Dam Failure	--- ---	--- ---	--- ---	--- ---	--- ---
17. Hazardous Materials Incident - Stationary	--- ---	--- ---	--- ---	--- ---	--- ---
18. Hazardous Materials Incident - Highway	--- ---	--- ---	--- ---	--- ---	--- ---

	PART A.			PART B.	
	1. Occurred Once	2. Occurred More Than Once	0. Didn't Occur	1. Involved in Response	0. Not Involved
19. Hazardous Materials Incident - Rail Line	--- ---	--- ---	--- ---	--- ---	--- ---
20. Hazardous Materials Incident - Pipeline	--- ---	--- ---	--- ---	--- ---	--- ---
21. Hazardous Materials Incident - River	--- ---	--- ---	--- ---	--- ---	--- ---
22. Radiological Incident - Fixed Facility	--- ---	--- ---	--- ---	--- ---	--- ---
23. Radiological Incident - Transportation	--- ---	--- ---	--- ---	--- ---	--- .- --
24. Nuclear Facility Incident	--- ---	--- ---	--- ---	--- ---	--- ---
25. Power Failure	--- ---	--- ---	--- ---	--- ---	--- ---
26. Subsidence	--- ---	--- ---	--- ---	--- ---	--- ---
27. Mine Cave-In, Fire, or Explosion	--- ---	--- ---	--- ---	--- ---	--- ---
28. Air Transportation Accident	--- ---	--- ---	--- ---	--- ---	--- ---
29. Railway Transportation Accident	--- ---	--- ---	--- ---	--- ---	--- ---
30. Urban Fire	--- ---	--- ---	--- ---	--- ---	--- ---

Other - Please specify the hazard
type, indicate if it occurred
once or more than once in the
past 20 years, and whether or
not you were involved.

	PART A			PART B	
	1. Occurred Once	2. Occurred More Than Once	0. Didn't Occur	1. Involved in Response	0. Not Involved
	---	---	---	---	---
31. _____	---	---	---	---	---
	---	---	---	---	---
32. _____	---	---	---	---	---
	---	---	---	---	---
33. _____	---	---	---	---	---

34. Approximately how many years has it been since the last disaster event took place in your jurisdiction?

_____ 1. Within the last year
_____ 2. Between 1 and 2 years ago
_____ 3. Between 2 and 4 years ago
_____ 4. Between 4 and 6 years ago
_____ 5. Between 6 and 10 years ago
_____ 6. More than 10 years ago

35. Which of the following emergency management-related problems has your jurisdiction experienced? (Mark all that apply.)

_____ 1. Problems with the media
_____ 2. Problems with volunteers
_____ 3. Lack of personnel (in numbers or in critical skills)
_____ 4. Lack of equipment
_____ 5. Lack of critical information
_____ 6. Warning system failures or limitations
_____ 7. Public failure to respond properly to warning
_____ 8. Lack of shelters
_____ 9. Lack of temporary housing
_____ 10. Lack of emergency finances
_____ 11. Public utilities knocked out
_____ 12. Calls from public jammed communications links
_____ 13. Coordination breakdown
_____ 14. Communications links not available
_____ 15. Problems in identifying who's in charge

Please indicate if each of the following hazards could potentially affect your jurisdiction. For those hazards that could potentially affect your jurisdiction, answer part B by indicating if the hazard poses a significant threat or not. The following four factors should be considered in determining if a hazard is significant:

* Historically, the hazard has affected the jurisdiction.

* Loss of life or property could result.

* The local emergency management organization would be involved if the event occurred.

* Specific plans exist or are needed to respond to the hazard.

	PART A Hazard Could Affect Jurisdiction (Circle One)		PART B Hazard Poses Significant Threat (Circle One)	
36. Avalanche	Yes	No	Yes	No
37. Agricultural Drought	Yes	No	Yes	No
38. Urban Drought	Yes	No	Yes	No
39. Earthquake	Yes	No	Yes	No
40. Flood	Yes	No	Yes	No
41. Flashflood	Yes	No	Yes	No
42. Hurricane/Tropical Storm	Yes	No	Yes	No
43. Landslide	Yes	No	Yes	No
44. Tornado	Yes	No	Yes	No
45. Tsunami	Yes	No	Yes	No
46. Volcano	Yes	No	Yes	No
47. Wildfire	Yes	No	Yes	No
48. Winter Storm	Yes	No	Yes	No
49. Civil Disorder	Yes	No	Yes	No
50. Dam Failure	Yes	No	Yes	No

	PART A Hazard Could Affect Jurisdiction (Circle One)		PART B Hazard Poses Significant Threat (Circle One)	
51. Hazardous Materials Incident - Stationary	Yes	No	Yes	No
52. Hazardous Materials Incident - Highway	Yes	No	Yes	No
53. Hazardous Materials Incident - Rail Line	Yes	No	Yes	No
54. Hazardous Materials Incident - Pipeline	Yes	No	Yes	No
55. Hazardous Materials Incident - River	Yes	No	Yes	No
56. Radiological Incident - Fixed Facility	Yes	No	Yes	No
57. Radiological Incident - Transportation	Yes	No	Yes	No
58. Nuclear Facility Incident	Yes	No	Yes	No
59. Power Failure	Yes	No	Yes	No
60. Subsidence	Yes	No	Yes	No
61. Mine Cave-In, Fire or Explosion	Yes	No	Yes	No
62. Air Transportation Accident	Yes	No	Yes	No
63. Railway Transportation Accident	Yes	No	Yes	No
64. Urban Fire	Yes	No	Yes	No

| | PART A
Hazard Could Affect
Jurisdiction
(Circle One) | | PART B
Hazard Poses
Significant Threat
(Circle One) | |

Other - (Please specify the hazard type and indicate if it poses a significant threat or not.)

65. _____	Yes	No	Yes	No
66. _____	Yes	No	Yes	No
67. _____	Yes	No	Yes	No

For questions 68-80 please indicate, using the codes listed below, which emergency preparedness techniques your jurisdiction has adopted and maintained. (Circle one for each question)

1. Adopted and maintained
2. Adopted but not maintained
3. Not adopted
4. Not applicable/relevant to my work

	Adopted and maintained	Adopted but not maintained	Not adopted	Not applicable/ Relevant to my work
68. Established equipment rate and use agreements with contractors/ industry	1	2	3	4
69. Established communication link to a major area radio/TV station, such as protected phone line or dedicated radio channel	1	2	3	4
70. Installed rotary phone connections and established staff procedures to operate a citizen emergency information phone bank (other than 911)	1	2	3	4
71. Trained citizen members of Block Watch or other neighborhood-based groups for emergency self-help	1	2	3	4
72. Established agreements with RACES, CB or other radio amateurs for assisting in an emergency or warning situation	1	2	3	4

	Adopted and maintained	Adopted but not maintained	Not adopted	Not applicable/ Relevant to my work
73. Established a location and staff responsible for a "media information center" at which reporters will be given frequently updated information during an extended emergency	1	2	3	4
74. Designated and trained staff to take responsibility for organizing untrained citizen volunteers who may show up in a major emergency	1	2	3	4
75. Established a procedure (multiple casualty incident plan) with hospital and ambulance managers for coordinating the reception of casualties in a major emergency	1	2	3	4
76. Established open purchase orders or other means to make and document necessary emergency expenditures	1	2	3	4
77. Developed specific methods and staff trained to make public evacuation warnings, other than fixed outdoor sirens	1	2	3	4
78. Designated usable vehicles & drivers to carry transit-dependent and mobility-impaired persons in an evacuation of a neighborhood or institution	1	2	3	4
79. Designated voluntary group or agency responsible for housing citizens temporarily evacuated from a hazardous area	1	2	3	4
80. Established a system that designates staff who will provide needed command post services in a multi-agency emergency response (joint communications, food, media relations, etc.)	1	2	3	4

81. How would you compare the preparedness of your jurisdiction for disasters and catastrophic emergencies with other jurisdictions of similar size across the nation, as best you can tell?

    ____ 1. Better prepared
    ____ 2. Comparably prepared
    ____ 3. Not as prepared
    ____ 4. No basis for making a judgment
    ____ 5. Not applicable/relevant to my work

82. Is there an individual (or individuals) responsible for resource management in your jurisdiction?

    ____ 1. Yes
    ____ 2. No
    ____ 3. Not applicable/relevant to my work

83. Have data concerning critical resources been computerized?

    ____ 1. Yes
    ____ 2. No
    ____ 3. Not applicable/relevant to my work

84. Does your jurisdiction have updated call-up lists to facilitate the mobilization of available personnel resources?

    ____ 1. Yes
    ____ 2. No
    ____ 3. Not applicable/relevant to my work

85. For which of the following critical resource areas are updated inventories maintained? (Mark all that apply.)

    ____ 1. Manpower
    ____ 2. Heavy equipment
    ____ 3. Emergency transportation
    ____ 4. Emergency fuel
    ____ 5. Construction materials
    ____ 6. Emergency food
    ____ 7. Emergency water
    ____ 8. Emergency medical and sanitation supplies
    ____ 9. Emergency housing
    ____ 10. Emergency clothing
    ____ 11. Emergency finances

86. Which of these critical resource areas have been identified
    as being potentially insufficient? (Mark all that apply.)

    _____   1. Manpower
    _____   2. Heavy equipment
    _____   3. Emergency transportation
    _____   4. Emergency fuel
    _____   5. Construction materials
    _____   6. Emergency food
    _____   7. Emergency water
    _____   8. Emergency medical and sanitation supplies
    _____   9. Emergency housing
    _____ 10. Emergency clothing
    _____ 11. Emergency finances

87. For which of these critical resource areas have potential
    sources been identified? (Mark all that apply.)

    _____   1. Manpower
    _____   2. Heavy equipment
    _____   3. Emergency transportation
    _____   4. Emergency fuel
    _____   5. Construction materials
    _____   6. Emergency food
    _____   7. Emergency water
    _____   8. Emergency medical and sanitation supplies
    _____   9. Emergency housing
    _____ 10. Emergency clothing
    _____ 11. Emergency finances

88. For which of these critical resources are written agreements
    in place? (Mark all that apply.)

    _____   1. Manpower
    _____   2. Heavy equipment
    _____   3. Emergency transportation
    _____   4. Emergency fuel
    _____   5. Construction materials
    _____   6. Emergency food
    _____   7. Emergency water
    _____   8. Emergency medical and sanitation supplies
    _____   9. Emergency housing
    _____ 10. Emergency clothing
    _____ 11. Emergency finances

89. For which of these critical resource areas have priority allocation plans been developed in light of competing local demands? (Mark all that apply.)

_____ 1. Manpower
_____ 2. Heavy equipment
_____ 3. Emergency transportation
_____ 4. Emergency fuel
_____ 5. Construction materials
_____ 6. Emergency food
_____ 7. Emergency water
_____ 8. Emergency medical and sanitation supplies
_____ 9. Emergency housing
_____ 10. Emergency clothing
_____ 11. Emergency finances

90. In your judgment, which of these critical resources might need to be rationed for public use in the event of a specific shortage? (Mark all that apply.)

_____ 1. Manpower
_____ 2. Heavy equipment
_____ 3. Emergency transportation
_____ 4. Emergency fuel
_____ 5. Construction materials
_____ 6. Emergency food
_____ 7. Emergency water
_____ 8. Emergency medical and sanitation supplies
_____ 9. Emergency housing
_____ 10. Emergency clothing
_____ 11. Emergency finances

91. Does your jurisdiction have some sort of provision for obtaining resources during an emergency?

_____ 1. Yes -- Please give a brief description.

_____

_____

_____ 2. No

92. Was a major portion of your jurisdiction's Emergency Operations Plan exercised or implemented in the last year?

_____ 1. Yes
_____ 2. No
_____ 3. Not applicable/relevant to my work

93. Does your jurisdiction regularly test all emergency communications links?

    _____ 1. Yes
    _____ 2. No
    _____ 3. Not applicable/relevant to my work

94. Does your jurisdiction have a protected communication link with an Emergency Broadcast System (EBS) station?

    _____ 1. Yes -- PLEASE ANSWER QUESTION 95
    _____ 2. No
    _____ 3. Not applicable/relevant to my work

95. (If YES to question 94) Does your jurisdiction test this communication link on a regular basis?

    _____ 1. Does not test regularly
    _____ 2. Daily
    _____ 3. Weekly
    _____ 4. Monthly
    _____ 5. Yearly
    _____ 6. Other (Please specify) _____

96. In the past year, how often has your jurisdiction tested its alerting and warning equipment?

    _____ 1. Once a week
    _____ 2. At least once a month
    _____ 3. Every 2 or 3 months
    _____ 4. Infrequently, there is no established procedure
    _____ 5. Not applicable/relevant to my work

97. Based on tests over the course of a year, which of the following statements best describes the warning equipment failure rate in your jurisdiction?

    _____ 1. 5 percent or less of equipment inventory
    _____ 2. 6 to 10 percent of equipment inventory
    _____ 3. 11 to 25 percent of equipment inventory
    _____ 4. More than 25 percent of equipment inventory
    _____ 5. Not applicable/relevant to my work

98. How frequently does your jurisdiction test your emergency power generator?

_____ 1. Daily
_____ 2. Weekly
_____ 3. Monthly
_____ 4. Not applicable (jurisdiction doesn't have one)
_____ 5. Not applicable/relevant to my work

99. Has your jurisdiction planned for suitable locations to be used as registration and reception centers for shelter facilities?

_____ 1. Yes
_____ 2. No
_____ 3. Not applicable/relevant to my work

100. Does your jurisdiction have current Shelter Survey information?

_____ 1. Yes
_____ 2. No
_____ 3. Not applicable/relevant to my work

101. Is there an evaluation of exercises conducted in which problems are identified and possible improvements suggested?

_____ 1. Yes
_____ 2. No
_____ 3. Not applicable/relevant to my work

102. Does your jurisdiction have an Emergency Operating Center (EOC) from which key officials can direct and control emergency response personnel?

_____ 1. Yes -- PLEASE ANSWER QUESTION 103
_____ 2. No
_____ 3. Not applicable/relevant to my work

103. (If YES to question 102) Is the EOC regularly used for any other functions?

_____ 1. Yes -- PLEASE ANSWER QUESTION 104
_____ 2. No
_____ 3. Not applicable/relevant to my work

104. (If YES to question 103) For what other functions is the EOC used?

_____

_____

_____

105. Does your jurisdiction house or serve a state, alternate, or substate regional ("central") EOC? (Mark all that apply.)

_____ 1. State EOC
_____ 2. Alternate EOC
_____ 3. Substate regional EOC
_____ 4. Not applicable/relevant to my work
_____ 5. None

106. Please indicate which of the following items characterize the EOC or the facility that is currently being used for direction and control in your jurisdiction.

[If this question is not applicable/relevant to your work, please check here. _____]

Circle One

106a. Has at least 50 square feet of space per person to accommodate all officials and staff. Yes   No

106b. Has its own independent mechanical emergency generator with connected 14 day fuel supply. Yes   No

106c. Has its own independent heating, air conditioning, ventilation system. Yes   No

106d. Has its own independent water supply. Yes   No

106e. Has its own independent sanitary facilities. Yes   No

106f. Is stocked with or has access to food and medical supplies, operational supplies, and communication repair parts sufficient for 14 days. Yes   No

106g. Is located outside a flood plain. Yes   No

106h. Provides protection to equipment from power surge. Yes   No

106i. Provides electromagnetic pulse protection. Yes   No

106j. Is protected from unauthorized entry,
      vandalism, and theft during activation.   Yes   No

106k. Is capable of receiving alerts and warnings   Yes   No
      released by State and Federal authorities
      on a 24-hour basis.

106l. Is operated on a 24-hour basis.   Yes   No

106m. Is capable of being activated on a 15-minute   Yes   No
      basis.

106n. Is mobile (e.g., a trailer).   Yes   No

107. What is the radiation protection factor (PF) of the EOC or
     direction and control facility in your jurisdiction?

     _____ 1. Less than PF 40
     _____ 2. PF 40 to PF 100
     _____ 3. More than PF 100, but less than PF 1000
     _____ 4. PF 1000 or more
     _____ 5. Not applicable/relevant to my work
     _____ 6. Don't Know

108. Do standard operating procedures exist for the EOC or
     direction and control facility for the following activities?

     [If this question is not applicable/relevant to your
     work, please check here. _____]

                                                           Circle One

108a. Identification of the responsibilities of   Yes   No
      the direction and control staff?

108b. Outlining operations at less than planned   Yes   No
      staff levels?

108c. Outlining communications procedures   Yes   No
      and protocols?

108d. Providing for augmenting direction and   Yes   No
      control staff with volunteers, if needed?

109. Is the EOC or direction and control facility maintained in an operational mode at all times?

    ____ 1. Yes
    ____ 2. No -- PLEASE ANSWER QUESTION 110
    ____ 3. Not applicable/relevant to my work

110. (If NO to question 109) How long would it take to make the EOC or direction and control facility operational?

    ____ 1. 0 to 30 minutes
    ____ 2. Up to 2 hours
    ____ 3. Longer

111. Do standard procedures exist for the following activities for all significant hazards in your jurisdiction?

    [If this question is not applicable/relevant to your work, please check here. _____]

                                                             Circle One

111a. Receipt of any warning issued by an   Yes   No
      authoritative source?

111b. Notification of direction and control   Yes   No
      staff to assemble?

111c. Damage assessment?   Yes   No

111d. Determination of a suitable response   Yes   No
      to an emergency situation?

112. Does your jurisdiction have provisions to find out rapidly the condition of the families and property of emergency response personnel in the event of an emergency?

    ____ 1. Yes
    ____ 2. No
    ____ 3. Not applicable/relevant to my work

113. On the average, approximately how long does it take to notify all key government officials in your jurisdiction after receipt of a warning from a credible source?

    ____ 1. Up to 5 minutes
    ____ 2. Close to 15 minutes
    ____ 3. Close to 30 minutes
    ____ 4. More than 30 minutes
    ____ 5. Not applicable/relevant to my work

114. On the average, approximately how long does it take to notify key emergency responders, including police and fire?

    ____ 1. Up to 5 minutes
    ____ 2. Close to 15 minutes
    ____ 3. Close to 30 minutes
    ____ 4. More than 30 minutes
    ____ 5. Not applicable/relevant to my work

115. Who in your jurisdiction makes the decision to warn the public when an emergency situation threatens?

    _____

116. During <u>waking</u> hours (i.e., 6:00 AM to 12:00 midnight), approximately what percentage of your jurisdiction's population can be alerted within 30 minutes using all available means of communication?

    ____ 1. 85 percent or more
    ____ 2. 70 to 84 percent
    ____ 3. Less than 70 percent
    ____ 4. Not applicable/relevant to my work

117. During <u>non-waking</u> hours (i.e., 12:00 midnight to 6:00 AM), approximately what percentage of your jurisdictions's population can be alerted within 30 minutes using all available means of communication?

    ____ 1. 85 percent or more
    ____ 2. 70 to 84 percent
    ____ 3. Less than 70 percent
    ____ 4. Not applicable/relevant to my work

118. Have arrangements been made to provide an adequate number of personnel to manage the following facilities:

[If this question is not applicable/relevant to your work, please check here. _____]

	Circle One	
118a. Protective facilities? (e.g. fallout shelter)	Yes	No
118b. Lodging facilities?	Yes	No
118c. Health care facilities?	Yes	No

119. Does your jurisdiction have plans for providing evacuation information to the public in time for them to take appropriate actions (e.g., the information will be disseminated over the radio, television, or by door-to-door contact at the time of warning)?

    _____ 1. Yes
    _____ 2. No
    _____ 3. Not applicable/relevant to my work

120. Have adequate plans been developed to insure the safety of those groups in your jurisdiction that are unable to evacuate on their own (for example, school children, patients in hospitals and nursing homes, and prisoners)?

    _____ 1. Yes
    _____ 2. No
    _____ 3. Not applicable/relevant to my work

121. Does your jurisdiction have some provision for identifying households that consist of or include persons who are blind, deaf, or otherwise handicapped?

    _____ 1. Yes
    _____ 2. No
    _____ 3. Not applicable/relevant to my work

122. Does it have plans for evacuating households that consist of or include blind, deaf, or otherwise handicapped individuals?

    _____ 1. Yes -- PLEASE ANSWER QUESTION 123
    _____ 2. No
    _____ 3. Not applicable/relevant to my work

123. (If YES to question 122) Has your jurisdiction used this plan in the last 5 years?

    _____ 1. Yes -- PLEASE ANSWER QUESTION 124
    _____ 2. No

124. (If YES to questions 122 and 123) How effective was the plan when it was implemented?

    _____ 1. Very effective
    _____ 2. Effective
    _____ 3. Neither effective/nor ineffective
    _____ 4. Ineffective
    _____ 5. Very ineffective

125. Have plans been developed to provide for the security of an evacuated area in your jurisdiction?

_____ 1. Yes
_____ 2. No
_____ 3. Not applicable/relevant to my work

126. How frequently is your jurisdiction's evacuation capability exercised?

_____ 1. Annually
_____ 2. Every 2 years
_____ 3. Every 3 years
_____ 4. Has not been exercised in the past 3 years
_____ 5. Not applicable/relevant to my work

127. Are emergency services personnel in your jurisdiction adequately trained to respond to hazardous/toxic materials (non-radiological) incidents?

_____ 1. Yes
_____ 2. No
_____ 3. Not applicable, trained response personnel are available at the State or from other public or private sources
_____ 4. Not applicable/relevant to my work

128. Do response personnel (local, State, or other) have adequate access to the following in the event of a hazardous/toxic materials incident:

[If this question is not applicable/relevant to your work, please check here. _____]

		Circle One	
128a.	Equipment?	Yes	No
128b.	Protective clothing?	Yes	No
128c.	Technical information about the hazardous material?	Yes	No

129. Does a capability exist for detecting and assessing the degree of exposure of individuals to tne following:

[If this question is not applicable/relevant to your work, please check here. _____]

	Circle One	
129a. Hazardous/toxic materials?	Yes	No
129b. Radioactive materials?	Yes	No

130. Within your jurisdiction or neighboring areas, is treatment available for individuals exposed to the following:

[If this question is not applicable/relevant to your work, please check here. _____]

	Circle One	
130a. Hazardous/toxic materials?	Yes	No
130b. Radioactive materials?	Yes	No

131. Has your jurisdiction begun to incorporate the requirements of Title III of the Superfund Amendments and Reauthorization Act (SARA) into your Emergency Response Plan?

____ 1. Yes
____ 2. No
____ 3. Not applicable/relevant to my work

132. How many trained and assigned radiological officers does your jurisdiction have?

____ 1. 0
____ 2. 1
____ 3. 2 to 4
____ 4. 5 or more
____ 5. Not applicable/relevant to my work

133. Is this number of radiological officers sufficient for:

[If this question is not applicable/relevant to your work, please check here. _____]

Circle One

133a. Peacetime needs?   Yes   No

133b. War-related needs?   Yes   No

134. How would you rate your jurisdiction's <u>peacetime</u> radiological protection capability based on the following factors:

134a. Operating procedures developed?

_____ 1. Adequate
_____ 2. Inadequate
_____ 3. Not applicable/relevant to my work

134b. Reporting procedures developed?

_____ 1. Adequate
_____ 2. Inadequate
_____ 3. Not applicable/relevant to my work

134c. EOC analysis staff trained and assigned?

_____ 1. Adequate
_____ 2. Inadequate
_____ 3. Not applicable/relevant to my work

135. How would you rate your jurisdiction's <u>war-related</u> radiological protection capability based on the following factors?

135a. Av lability of radiological equipment?

_____ 1. Adequate
_____ 2. Inadequate
_____ 3. Not applicable/relevant to my work

135b. Availability of trained radiological monitors?

_____ 1. Adequate
_____ 2. Inadequate
_____ 3. Not applicable/relevant to my work

135c. Operating procedures developed?

        ____   1. Adequate
        ____   2. Inadequate
        ____   3. Not applicable/relevant to my work

135d. Reporting procedures developed?

        ____   1. Adequate
        ____   2. Inadequate
        ____   3. Not applicable/relevant to my work

136. Has your jurisdiction established monitoring and reporting
     locations with a protection factor of PF 40 or better for
     use in the event of a war-related radiological emergency?

        ____   1. Adequate to meet needs
        ____   2. Some established, but capability is inadequate
        ____   3. None established
        ____   4. Not applicable/relevant to my work

137. Would you approve of a proposal to develop a network of
     fallout-protected control centers (EOCs) from which key
     local officials would direct emergency operations and would
     provide survival information to be broadcast to the public?

        ____   1. Strongly approve
        ____   2. Approve
        ____   3. Unsure/don't know
        ____   4. Disapprove
        ____   5. Strongly disapprove

138. Please indicate if you would approve or disapprove of the
     following program. During periods when no emergency is
     threatening, information will be provided to the public
     concerning attack and peacetime disasters so that they know
     what actions to take to improve their chances of survival.
     Would you approve or disapprove of the this program?

        ____   1. Strongly approve
        ____   2. Approve
        ____   3. Unsure/don't know
        ____   4. Disapprove
        ____   5. Strongly disapprove

139. Within the last three years, has your jurisdiction conducted a nuclear attack exercise?

_____ 1. Yes
_____ 2. No
_____ 3. Not applicable/relevant to my work

140. Within the last three years, has your jurisdiction conducted an exercise pertaining to other hazards?

_____ 1. Yes - PLEASE ANSWER QUESTION 141
_____ 2. No
_____ 3. Not applicable/relevant to my work

141. (If YES to question 140) For which hazards were exercises conducted? (Mark all that apply.)

_____ 1. Nuclear power plant accident
_____ 2. Hazardous materials incident
_____ 3. Mass casualty accident (e.g., plane or train accident)
_____ 4. Other (Please specify)

_____

_____

142. In case of nuclear war, do you think that the danger of your area being a target is high, medium, low, or none at all?

_____ 1. High danger
_____ 2. Medium danger
_____ 3. Low danger -- SKIP TO 144
_____ 4. No danger at all -- SKIP TO 144

143. (If HIGH or MEDIUM to question 142) What in your area makes it a target? (Mark all that apply.)

_____ 1. Metropolitan area
_____ 2. Military facility
_____ 3. Industry
_____ 4. Nuclear power plant
_____ 5. Transportation center
_____ 6. Arsenal
_____ 7. Political center
_____ 8. Electric power facility (other than nuclear)

144. Does your jurisdiction's war-related population protection planning address any of the following actions:

[If this question is not applicable/relevant to your work, please check here. _____]

Circle One

144a. Shelter stays up to 14 days?   Yes   No

144b. Overloading existing shelters?   Yes   No

144c. Using substandard shelters? (e.g.,   Yes   No
      less than PF 40)

144d. Using upgradeable shelters?   Yes   No

144e. Using expedient shelters?   Yes   No

145. In your judgment, do you think that plans to deal with peacetime hazards would be helpful in coping with a nuclear attack?

_____ 1. Definitely yes
_____ 2. Probably yes
_____ 3. Unsure/don't know
_____ 4. Probably no
_____ 5. Definitely no

146. How likely do you think it is that we're in for a big World War -- one where nuclear weapons would be used?

_____ 1. Very likely
_____ 2. Likely
_____ 3. 50-50 chance
_____ 4. Unlikely
_____ 5. Very unlikely
_____ 6. Never will happen
_____ 7. Unsure/don't know

147. In your judgment, how much warning time would there be if a nuclear war were to occur?

_____ 1. None
_____ 2. Minutes
_____ 3. Hours
_____ 4. About a day
_____ 5. Two to three days
_____ 6. Four days to a week
_____ 7. A week or more
_____ 8. Unsure/don't know

148. How good would the chances be that people in your area would survive if...

(Circle One)

	No Chance of Survival					Very Good Chance	Don't Know
148a. a nuclear war started next week?	0	1	2	3	4	5	8
148b. they were in blast shelters?	0	1	2	3	4	5	8
148c. they were evacuated to areas considered to be much less likely targets of a direct attack?	0	1	2	3	4	5	8
148d. they didn't evacuate, but were in fallout shelters?	0	1	2	3	4	5	8
148e. they were relocated to another location where sheltering against fallout would be provided, in the event of a nuclear war?	0	1	2	3	4	5	8

149. If there were a major international crisis and it seemed likely that it might lead into a nuclear war, what percentage of people from your area do you think would evacuate on their own, that is, spontaneously?

```
_____  1.  0% - 10%
_____  2. 11% - 20%
_____  3. 21% - 30%
_____  4. 31% - 40%
_____  5. 41% - 50%
_____  6. 51% - 60%
_____  7. 61% - 70%
_____  8. 71% or more
_____  9. Unsure/don't know
```

150. Do you favor the development of plans to evacuate high risk areas in the event of a crisis in which war seems very likely?

```
_____  1. Definitely yes
_____  2. Probably yes
_____  3. Unsure/don't know
_____  4. Probably no
_____  5. Definitely no
```

151. Do you think that there could be a situation in which the President would urge or suggest that people evacuate the high risk areas of the country?

_____ 1. Definitely yes
_____ 2. Probably yes
_____ 3. Unsure/don't know
_____ 4. Probably no
_____ 5. Definitely no

152. If the President would urge people to evacuate high risk areas of the country, what percentage of people do you think would comply with the request?

_____ 1. Not more than 25%
_____ 2. Between 25% and 50%
_____ 3. Between 50% and 75%
_____ 4. More than 75%, but not all
_____ 5. 100%
_____ 9. Unsure/don't know

153. If in the midst of an international crisis, members of the public would get in touch with you, would you encourage them to evacuate on their own (that is, spontaneously), discourage spontaneous evacuation, or make it clear that it is entirely up to them?

_____ 1. Encourage spontaneous evacuation
_____ 2. Discourage spontaneous evacuation
_____ 3. Neither encourage nor discourage spontaneous evacuation
_____ 4. Unsure/don't know

154. Do you believe that it should be a national policy to encourage, discourage, or neither encourage nor discourage spontaneous evacuation?

_____ 1. Encourage spontaneous evacuation
_____ 2. Discourage spontaneous evacuation
_____ 3. Neither encourage nor discourage spontaneous evacuation
_____ 4. Unsure/don't know

155. If the people in your area were to evacuate and go somewhere else because of the danger that nuclear war might start, would there be enough time for them to do so?

_____ 1. Definitely yes
_____ 2. Probably yes
_____ 3. Unsure/don't know
_____ 4. Probably no
_____ 5. Definitely no

156. Thinking about your area and the number of people who live there, approximately how long would it take to evacuate everybody?

_____ 1. Less than one hour
_____ 2. Between 1 and 2 hours
_____ 3. Between 2 and 4 hours
_____ 4. Between 4 and 8 hours
_____ 5. Between 8 and 24 hours
_____ 6. Between 24 and 48 hours
_____ 7. Between 48 and 72 hours
_____ 8. More than 3 days
_____ 9. Unsure/don't know

157. Suppose your area became a host area for evacuees. Would you say that the people in your area would be helpful in such a situation?

_____ 1. Definitely yes
_____ 2. Probably yes
_____ 3. Unsure/don't know
_____ 4. Probably no
_____ 5. Definitely no

158. If your community were to receive evacuees, would most people be willing to have evacuees stay in their homes?

_____ 1. Definitely yes
_____ 2. Probably yes
_____ 3. Unsure/don't know
_____ 4. Probably no
_____ 5. Definitely no

159. If necessary, do you think the local government should issue an appeal to have area residents temporarily house evacuees?

____ 1. Definitely yes
____ 2. Probably yes
____ 3. Unsure/don't know
____ 4. Probably no
____ 5. Definitely no

160. In your judgment, do you think that plans to deal with nuclear attack would be helpful in coping with peacetime hazards?

____ 1. Definitely yes
____ 2. Probably yes
____ 3. Unsure/don't know
____ 4. Probably no
____ 5. Definitely no

161. Using the following codes, please indicate if you agree or disagree with the following statements concerning preparedness for nuclear attack.   (Circle One)

	Strongly Disagree	Disagree	Unsure/ Don't know	Agree	Strongly Agree
161a. There is no need for attack preparedness because nuclear war will not come.	1	2	3	4	5
161b. Given our strategic might, no enemy would dare to attack, so there is no need for attack preparedness.	1	2	3	4	5
161c. No attack preparedness program makes sense because it would not be able to help save enough people.	1	2	3	4	5
161d. Even after a nuclear war, the survivors could rebuild America and make the best of it under the circumstances	1	2	3	4	5
161e. Police and fire services in evacuated areas would have to be increased to prevent looting, arson, and other problems.	1	2	3	4	5
161f. Even if people were to survive a nuclear attack, life would not be worth living.	1	2	3	4	5
161g. Attack preparedness programs in general increase anxiety and fear on the part of our people.	1	2	3	4	5

	Strongly Disagree	Disagree	Unsure/ Don't know	Agree	Strongly Agree
161h. Attack preparedness programs make our people more complacent about nuclear war and might lead to a "false sense of security" making nuclear war more acceptable.	1	2	3	4	5
161i. Attack preparedness efforts increase the chances of nuclear war because they signal to the Soviets that we are preparing to start a war.	1	2	3	4	5
161j. Attack preparedness makes further agreements on arms control more difficult.	1	2	3	4	5
161k. By showing that we are prepared for anything that could happen, attack preparedness contributes to deterrence and makes nuclear war less likely.	1	2	3	4	5
161l. Attack preparedness programs could save many lives should nuclear war ever happen.	1	2	3	4	5
161m. An agreement between the United States and the Soviets to stop the production of more nuclear weapons would make civil defense measures to protect our people against nuclear war less needed.	1	2	3	4	5
161n. If we can have active defense weapons in space that can shoot down some number of enemy missiles before they can reach their targets, there would be less need for civil defense measures that protect our people against nuclear attack.	1	2	3	4	5
161o. Anti-missile defense around key cities and military installations makes civil defense measures to protect our people against a nuclear attack less needed.	1	2	3	4	5
161p. Civil defense measures to protect our people against a nuclear attack will be more needed if we don't deploy anti-missile missiles.	1	2	3	4	5

162. If a nuclear war should occur, do you think that it would start from an "out-of-the-blue" attack, or erupt only after some period of extreme international tensions?

_____ 1. Would start from an "out-of-the-blue" attack
_____ 2. Would start only after some period of extreme tension
_____ 3. Could happen either way
_____ 4. A nuclear war will never happen
_____ 5. Unsure/don't know

163. How many paid <u>full-time</u> personnel are there in your jurisdiction's emergency management organization? Exclude emergency service personnel (e.g., fire, police) and 911 or emergency service dispatch personnel.

_____ 1. 0
_____ 2. 1
_____ 3. 2 to 4
_____ 4. 5 or more
_____ 5. Not applicable/relevant to my work

164. How many paid <u>part-time</u> personnel are there in your jurisdiction's emergency management organization? Exclude emergency service personnel (e.g., fire, police) and 911 or emergency service dispatch personnel.

_____ 1. 0
_____ 2. 1
_____ 3. 2 to 4
_____ 4. 5 or more
_____ 5. Not applicable/relevant to my work

165. How many unpaid <u>volunteers</u> are there in your jurisdiction's emergency management organization?

_____ 1. 0
_____ 2. 1
_____ 3. 2 to 4
_____ 4. 5 or more
_____ 5. Not applicable/relevant to my work

166. During the next fiscal year, what is the total estimated number of hours to be expended on routine emergency management activities (e.g., administrative work, planning, training, exercising) by volunteers? Exclude emergency service personnel and 911 or emergency service dispatchers.

_____ 1. 0 to 50 hours
_____ 2. 51 to 200 hours
_____ 3. 201 to 400 hours
_____ 4. 401 hours or more
_____ 5. Not applicable/relevant to my work

167. From past experience of volunteer participation in disaster and emergency situations in your jurisdiction, how much help are citizen volunteers?

_____ 1. No help at all
_____ 2. Some help
_____ 3. A great deal of help
_____ 4. Not applicable -- haven't used volunteers
_____ 5. Not applicable/relevant to my work

168. How much help are volunteers in routine jobs during normal times between disasters?

_____ 1. No help at all
_____ 2. Some help
_____ 3. A great deal of help
_____ 4. Not applicable -- haven't used volunteers
_____ 5. Not applicable/relevant to my work

169. It is sometimes said that volunteers cause more problems than their efforts are worth. Do you agree or disagree with that assertion?

_____ 1. Strongly agree
_____ 2. Agree
_____ 3. Unsure
_____ 4. Disagree
_____ 5. Strongly disagree

170. How have volunteers been used in your jurisdiction in the past? (Mark all that apply.)

_____ 1. Sand-bagging
_____ 2. Communications
_____ 3. Search and rescue
_____ 4. Administrative tasks
_____ 5. Clerical tasks
_____ 6. Other (Please specify)_____

_____

_____

_____ 7. Not applicable/relevant to my work

171. For each of the following questionson volunteering, please circle one:

	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree	Not Applicable/ Relevant to my work
171a. Trained volunteers may be useful, but not untrained citizens.	1	2	3	4	5	6
171b. Liability problems of using volunteers are great.	1	2	3	4	5	6
171c. Our jurisdiction can't spare staff to supervise volunteers in a disaster.	1	2	3	4	5	6

172. Are any of the following used in your jurisdiction?

[If this question is not applicable/relevant to your work, please check here. _____]

(Circle One)

172a.	Trained volunteers (auxiliary, SAR, cadets, etc.)	Yes	No
172b.	Volunteer coordinator on staff	Yes	No
172c.	Retired personnel on call for emergencies	Yes	No
172d.	List of potential volunteers on file	Yes	No
172e.	Plan to have private agency like Red Cross handle volunteers	Yes	No
172f.	Individual Mobilization Augmentees (IMAs)	Yes	No

173. Do any of the following non-governmental groups have a formally defined role in emergency management in your jurisdiction? (Mark all that apply.)

_____ 1. Red Cross Chapter
_____ 2. Local Search and Rescue Association or Club
_____ 3. Area Agency on Aging or Seniors Council
_____ 4. Local Volunteer Bureau
_____ 5. Citizen Band Radio Amateurs
_____ 6. RACES
_____ 7. Traveler's Aid Chapter or Committee
_____ 8. Chamber of Commerce
_____ 9. Not applicable/relevant to my work

174. Which of the departments listed below regularly participate in emergency management exercises, critiques, or other planning activities in your jurisdiction? (Mark all that apply.)

_____ 1. Fire Service
_____ 2. Parks and Recreation
_____ 3. Finance or General Administration
_____ 4. Fleet/General Services
_____ 5. Law Enforcement
_____ 6. Emergency Medical
_____ 7. Human Resources/Personnel
_____ 8. City Manager/Chief Administrative Officer or Mayor's Office
_____ 9. Public Works/Streets & Roads
_____ 10. Public Health
_____ 11. City Attorney's Office
_____ 12. Planning/Housing & Community Development
_____ 13. Water/Sanitation Authority
_____ 14. Not applicable/relevant to my work

175. What do you think is the best approach to funding emergency management activities? (Check one)

_____ 1. The current approach is best, with local governments providing the first half of the cost of preparations that are useful in both peacetime and attack, and the federal government paying 100% for preparations mainly needed for an attack.

_____ 2. It would be best to ask local governments to share the cost for all items, including radiation detection instruments and other things needed primarily for attack purposes and with only minor benefit for peacetime disasters.

_____ 3. It would be best for the federal government to provide 100% funding to state and local governments for all elements of attack preparedness.

_____ 4. It would be best for the federal government to provide 100% funding to state and local governments for all emergency and disaster programs. - PLEASE ANSWER QUESTION 176

_____ 8. Unsure/don't know

176. (If '4' for question 175) If the Federal government were unable to provide 100% of the funding, which of the other two approaches do you think is better?

_____ 1. Approach number 1
_____ 2. Approach number 2
_____ 3. Approach number 3
_____ 8. Unsure/don't know

177. Do you see any problems with the criteria used in recommending that the President declare a situation to be a disaster or emergency?

_____ 1. Yes
_____ 2. No -- PLEASE CONTINUE WITH QUESTION 178

178. (If YES to question 177) What criteria do you think should be used, or what changes should be made?

_____ _____

_____

_____

_____

_____ _____

179. Do you see any problems with the procedures or criteria used in the Governors' requests that the President declare a situation a disaster or emergency?

_____ 1. Yes
_____ 2. No -- PLEASE CONTINUE WITH QUESTION 181

180. (If YES to question 179) What criteria do you think should be used, or what changes should be made?

_____ _____

_____

_____ _____

_____

_____ _____

_____ _____

181. During periods when no emergency is threatening, is there any information that you need to have or would like to have that is currently not read.ly available to you; that is, information that would enhance preparedness planning and programs?

    _____ 1. Yes
    _____ 2. No -- PLEASE CONTINUE WITH QUESTION 183

182. (If YES to question 181) What kind of information?

    _____

    _____

    _____

183. Is there any information that you now do not have that would make your programs more effective during an emergency?

    _____ 1. Yes
    _____ 2. No -- PLEASE CONTINUE WITH QUESTION 185

184. (If YES to question 183) What kind of information?

    _____

    _____

    _____

185. Is there any information that you now do not have that you need or would like to have regarding the immediate aftermath of a disaster, that is, in the rescue and clean-up period?

    _____ 1. Yes
    _____ 2. No -- PLEASE CONTINUE WITH THE NEXT PAGE

186. (If YES to question 185) What kind of information?

    _____

    _____

    _____

The following set of questions provides demographic information that is extremely important in our aggregate analysis. Keep in mind that your cooperation is strictly voluntary and your confidentiality is assured.

What is your position?

        ____ 1. Civil Defense/Emergency Management Director
        ____ 2. Fire Chief
        ____ 3. Police Chief
        ____ 4. Emergency Medical Services Director
        ____ 5. Director of Public Works
        ____ 6. Director of Water/Sanitation Authority
        ____ 7. Other (Please specify)

        _____

What is your level of jurisdiction?

        ____ 1. Borough/Township
        ____ 2. City
        ____ 3. County
        ____ 4. Other (Please specify)

        _____

How long have you held this position?

        ____ 1. One year or less
        ____ 2. Between 1 and 2 years
        ____ 3. Between 2 and 4 years
        ____ 4. Between 4 and 6 years
        ____ 5. Between 6 and 10 years
        ____ 6. More than 10 years

Is this a salaried position?

        ____ 1. Yes
        ____ 2. No

Please indicate your year of birth.   _____

Which of the following best describes your educational background? (Choose one.)

_____ 1. High school graduate
_____ 2. High school graduate, plus some technical/informal training
_____ 3. Some college
_____ 4. College graduate
_____ 5. Graduate school

Did you ever serve in the armed forces?

_____ 1. Yes
_____ 2. No

When did you serve? (Mark all that apply)

_____ 1. During World War II
_____ 2. Between World War II and the Korean War
_____ 3. During the Korean War
_____ 4. Between the Korean War and Viet Nam
_____ 5. During Viet Nam
_____ 6. After Viet Nam

Were you ever in combat?

_____ 1. Yes
_____ 2. No

Thank you very much for taking the time to answer these questions. Your cooperation is greatly appreciated.

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Emergency Preparedness: Reports and Reflections
of Local and County Emergency Managers

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Abstract

This research document reports the findings of a questionnaire survey mailed to a nationwide sample of local and county Emergency Management Officials (EMO's). The study is intended to provide input regarding similarities and differences among emergency management jurisdictions across the nation. Its broad focus provides detailed information on the current state of emergency and disaster procedures and preparedness programs in the face of natural, technological, and nuclear emergencies. Perceived levels of capabilities and resources, both capital and financial are also explored. Further, results suggest a gap between local concerns and needs, and the topsided view of the Federal government.

The rather lengthy instrument, designed in consultation with FEMA personnel, includes questions adopted from FEMA's Hazard Identification, Capability Assessment, and Multi-Year Development Plan (HICA-MYDP). As such, findings may be useful in both validation and comparison of relevant aspects of previous HICA-MYDP surveys, though this deeper analysis is not presented here. The current findings are presented in descriptive statistical analyses, and the instrument uses closed and open-ended questions, including rating scales.

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Findings assess respondents' experiences in emergency response, emergency management problems, adoption and maintenance of procedures, techniques, and critical resources. These are based on explicit listings, and are drawn from HICA-MYDP documentation. Results suggest that patterns of adoptions of various procedures and techniques are driven by considerations other than those of problems. There is a relative infrequency of written agreements to procure critical resources, compared to less formal agreements with potential suppliers. And rank order correlations show negative relationships between reported shortfalls in resources and resource availability. A more detailed analysis of these interrelationships in resource management is called for.

This study provides summary analysis of reported jurisdictional capabilities including preparation and planning areas of emergency management, shelters and evacuation, warning procedures, and capabilities to deal with hazardous and radiological materials. Additional findings indicate that there is a tendency for those EMOs who claim that their jurisdictions are better prepared than comparable others to have experienced more disasters and to feel more threatened.

Overall, the majority of EMOs report inadequate capabilities for wartime needs, compared to peacetime needs. And most EMOs view attack preparedness as a worthwhile endeavor. Other findings in the area of nuclear concerns include the following: EMOs would support a combination of evacuation and in-place protection programs; EMOs assess chances of surviving a nuclear attack as "medium." Overall, the higher the perceived target danger of a jurisdiction, the lower the survivability estimate.